

K-12 Virtual Education: Promising Practices

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Executive Summary

This Office of Legislative Oversight (OLO) report responds to Council's request to learn more about K-12 virtual education. This report examines promising practices for K-12 virtual schools and provides: a background on full-time virtual K-12 education; current virtual learning options offered by Montgomery County Public Schools (MCPS); discusses advantages and disadvantages of K-12 virtual education from student and staff perspectives; presents case studies of ten school district-run virtual schools; and summarizes OLO's major findings and discussion items for Council consideration.

Overview of K-12 Virtual Schools. Since the inception of K-12 virtual education in 1995, enrollment for virtual schools in the United States continues to grow. While there are multiple governing bodies for these schools, virtual schools that are run by school districts or states are held to the same academic standards and policies as public schools. Further, OLO notes that virtual schools differ greatly from the emergency online learning employed during the COVID-19 pandemic. Full-time virtual learning programs deliver instruction that is specifically designed for the virtual classroom environment, including flexible schedules, regular one-on-one communication between student and teacher, and opportunities for students to develop their own individualized learning plan.

MCPS Virtual Education Options. MCPS offers three main virtual education options for students, two of which (Interim Instructional Services and Student Online Learning) were established prior to the pandemic and are not intended as permanent, full-time virtual options.

- **Interim Instructional Services** is a short-term online program that is designed to meet the needs of K-12 students who are unable to participate in their home school due to a physical or emotional condition.
- **Student Online Learning** offers various ways for students to take online courses while still attending their home school's in-person classes. It offers AP courses, online course credit recovery, and online courses to meet the academic requirements for a Maryland high school diploma.
- **Montgomery Virtual Academy** was established in 2021 and is the only full-time virtual K-12 program open to the general student population. It is divided into a lower school (K-5) and an upper school (6-12) with a central administrative team for both, in addition to counselors, special education staff, and English as a Second Language (ESOL) staff.

Advantages and Disadvantages of K-12 Virtual Education. OLO summarized advantages and disadvantages of K-12 virtual education for both students and teachers in K-12 virtual schools. A selection of these advantages and disadvantages are presented on the next page.

Students

Advantages include:

- Individualized learning and flexible pacing
- Less classroom distractions and the ability to control learning environment
- Retention of students who would otherwise be unable to attend school

Disadvantages include:

- Less opportunities for socialization compared to brick-and-mortar schools
- Need for computer literacy to succeed in online coursework
- Daily need of a dedicated guardian for supporting coursework

Teachers

Advantages include:

- Improved ability to track student comprehension through digital tools
- Flexibility of schedules
- Teaching opportunities for teachers with physical disabilities

Disadvantages include:

- Adapting courses and teaching style
- Potentially larger class sizes
- Difficulty establishing connections with students and families

Characteristics of Success in Virtual Learning. Research and anecdotal feedback have identified several characteristics of students who experience success with online learning which includes: students who struggle with distractions in traditional classrooms; students who are self-motivated, self-paced, and independent learners; and those who have strong computer literacy. Further, another characteristic of success is having a dedicated and quiet space for online learning and studying as well as a strong internet connection and appropriate devices.

OLO notes that it is important to view K-12 virtual schools as an option for some students, not all students and that there are various measures of success. There is research that shows some students with special health care needs can benefit greatly from virtual education. Some of these students cannot attend school physically so virtual schools allow them to keep up academically with peers. Therefore, grades are not always the most important indicator for a student's success to track. Attendance, student satisfaction, and direct feedback from teachers, students, and families can better show if virtual education is a good fit for students. It can also be more accurate to compare an individual students' academic records from in-person classes to their virtual classes, as comparing all grades from a virtual school to a brick-and-mortar school may not accurately show all academic successes in virtual education.

Equity and Access. While virtual education can cut across geographical boundaries and allow students to access courses they otherwise would not be able to, virtual education can magnify inequities in resources, such as access to a dedicated space to do schoolwork, access to caregivers who can provide guidance during virtual learning sessions, and a strong connection to the internet and appropriate devices. Further, a 2019 study that compiled demographic data from 477 virtual schools found these schools enroll fewer minority students, substantially fewer low-income students, and relatively few English language learners (ELLs) compared to national public-school enrollment.

Promising Practices. Many successful teaching practices for brick-and-mortar classrooms do not translate to virtual classrooms. However, virtual classrooms can be utilized to provide more flexible and individualized instruction, more one-on-one opportunities between students and teachers, and the integration of technology. OLO identified the following categories of instructional promising practices for K-12 virtual schools through research and discussion with stakeholders and an example of each is presented below.

- **Feedback** - Using digital tools to provide immediate feedback to students as it has been found that it is beneficial for students' performance to receive immediate rather than delayed feedback
- **Teaching Tools and Strategies** - Using multiple strategies (i.e., videos, lectures, podcasts, and interactive activities) to engage in content to suit varying student learning styles in the classroom
- **Building Relationships** - One of the most beneficial practices is to have individual conferences with students. In a traditional classroom, it is difficult to take a student aside without having peers nearby. However, virtual school teachers can easily set up a one-on-one video conference

Overview of Findings from Case Studies. Ten districts with full-time virtual school options were examined and some commonalities that emerged were: all teachers are either district teachers and/or state certified; all but one district utilizes a home school system (where all virtual students are enrolled in a physical school in their district to receive services and participate in after school activities); all programs emphasized the importance of students having a guardian who is actively engaged in supporting their student's online learning experience daily; and more than half of the programs ask for enrolled students to commit to virtual learning for the entire school year.

OLO Discussion Item

Overall, offering virtual education options allows students who excel in the virtual classroom to continue their success. The Council could discuss with agency representatives the following options for expansion:

- Partnering with neighboring districts to increase pool of resources and potentially offer more courses and programs for students;
- Determining ways to increase opportunities for socialization and building community for students in the Virtual Academy;
- Attracting more teachers with strong skills in online teaching and providing more professional development opportunities specifically for virtual academy educators; and
- Offering part-time courses through the Virtual Academy for students attending brick-and-mortar schools.

The Council could also discuss with MCPS adding dedicated physical spaces for students enrolled in the Virtual Academy, like other jurisdictions have done. Some stakeholders expressed an interest in having a physical space for Virtual Academy students to access tutoring, technical help, and allowing for face-to-face socialization opportunities for students.

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K-12 Virtual Education: Promising Practices

OLO Report 2022-10

Table of Contents

Executive Summary i

Chapter 1. Report Introduction and Scope 1

Chapter 2. Introduction to K-12 Virtual Education..... 2

Chapter 3. Advantages and Disadvantages of K-12 Virtual Schools 14

Chapter 4. Promising Practices and Characteristics for Success in Virtual Education 27

Chapter 5. Findings and Discussion 52

Chapter 6. Agency Comments 56

Appendix A. Montgomery Virtual Academy Schedules 57

Appendix B. Supplemental Information on Case Studies 59

Chapter 1. Report Introduction and Scope

While virtual schools have existed for decades, the 2020 COVID-19 pandemic forced an unprecedented number of school districts around the country to move towards a virtual education environment, where students were taught entirely or primarily online. Even though many students have returned to in-person learning, a significant number of families have chosen to keep students in the virtual environment for a variety of reasons such as: curriculum quality or focus; highly individualized instruction; flexible scheduling; and ease of access for highly mobile families (i.e., military families).¹

Virtual school models vary, ranging from distance learning types which provide study materials for independent self-paced study, to live, interactive classes where students communicate with a teacher in a class group lesson. Schools may also be district-run, chartered, or private and have a central office, administrators, teachers, daily attendance, grades and report cards, special-education, health services, and more.

During the last school year, Montgomery County Public Schools (MCPS) opened the Virtual Academy, a full-time online school for students. The Montgomery County Council directed the Office of Legislative Oversight (OLO) to prepare a report to learn more about virtual education. They requested a report that examines promising practices for K-12 virtual schools, including advantages and disadvantages for staff and students, characteristics of success in K-12 virtual education, and how other jurisdictions are planning to continue virtual school opportunities after the pandemic. Specifically, this report is organized as follows:

- **Chapter 2** defines language commonly used in K-12 virtual education, summarizes the history of virtual learning, and provides an overview of the current MCPS virtual learning options;
- **Chapter 3** provides an overview of the advantages and disadvantages of K-12 virtual education from staff and student perspectives;
- **Chapter 4** describes various characteristics of success for K-12 virtual education;
- **Chapter 5** presents case studies from jurisdictions that have implemented a full-time virtual education program and plan to continue after the pandemic;
- **Chapter 6** summarizes OLO's major findings and presents discussion items for Council consideration; and
- **Chapter 7** includes written comments from MCPS on this report.

¹ [Bellwether Education Partners, Promise in the Time of Quarantine: Exploring Schools' Responses to COVID-19, 2020](#)

Methodology and Acknowledgements. To complete this report, OLO gathered information through document reviews, cases studies, and interviews with staff and relevant stakeholders from Montgomery County Public Schools. The following individuals met with OLO staff and/or aided OLO for this report (presented in alphabetical order). OLO appreciates all the effort and assistance provided for this report.

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Chapter 2. Introduction to K-12 Virtual Education

Although many teachers, students, and families engaged in fully online virtual education for the first time due to the COVID-19 pandemic, virtual K-12 schools and online programs are not a new concept. However, full-time virtual education differs greatly from the emergency online schooling that was utilized during the pandemic. Full-time virtual learning programs deliver instruction that is specifically designed for the virtual classroom environment, including flexible schedules, regular one-on-one communication between student and teacher, and opportunities for students to collaborate with each other.²

Another notable difference between the pandemic and virtual schooling is that staff can be hired who excel in teaching in a virtual classroom. Emergency online schooling forced all staff into using technology in ways they were not comfortable with and had minimal time and support to learn. Further, unlike emergency online schooling, students choose the virtual school option. Some reasons include removing distractions, separating from negative peer groups, safety/health reasons, work/internship experiences, high-level athletic training obligations, and attending college at the same time.³

This OLO report focuses mainly on full-time virtual K-12 education with curriculum and courses designed specifically for online learning.

The following chapter provides an overview of virtual education as follows:

- A. Defining Common Virtual Education Terms**
- B. Overview of K-12 Virtual Schools in the U.S.**
- C. Legal Framework for K-12 Virtual Education**
- D. Montgomery County Public Schools Virtual Education Options**
- E. Summary of Available Data on the Montgomery County Virtual Academy**

² [Hanover Research, Effective Models for K-12 Virtual Schools, 2017](#)

³ Stakeholder Feedback.

A. Defining Common Virtual Education Terms

Virtual education has a large set of terms and concepts that are unique to the field. Terms and concepts that will be discussed in detail in the report are defined below.⁴

- **Asynchronous learning** is described as education, instruction, and learning that do not occur in the same place or at the same time. Instructors use resources to facilitate information sharing outside the constraints of time and place among students in the class.⁵ Flexibility and self-paced learning are emphasized in asynchronous learning and allows for different learning styles to be easily accommodated and lessons can be accessed at any time.⁶ In K-12 education, tools commonly used in asynchronous learning include recorded presentations, email communications, discussion boards, social media groups, and cloud-based collaborative documents (such as Google Docs).
- **Synchronous learning** occurs in real-time but does not necessarily need students and instructors to be in the same physical space. Videoconferencing software can allow instructors to teach students in different locations simultaneously, through methods such as live presentations and lectures.⁷
- **Hybrid learning** combines online education and face-to-face classroom education. Some examples of this approach include drop-in centers where students can receive extra tutoring and support, and/or a teacher combining online homework and instruction with in-person class time.⁸
- **Blended Learning**⁹ combines both asynchronous and synchronous learning to allow for flexibility in online instruction and is delivered fully virtual. A popular way of implementing blended learning is through the “flipped classroom” approach. This is where an instructor records a lecture or provides access to videos, readings, quizzes, and homework that students work through prior to attending a live class session. The live class session is focused on helping students apply concepts and engage the subject matter introduced in the assignments prior to class.
- **Learning Management Systems** are online integrated software with the capability to create, deliver, track, and report educational courses and outcomes. It provides teachers with one central location for lesson and assessment planning, student feedback portals, grades, and more. For students in online learning, it is often the

⁴ OLO notes that the Maryland State Department of Education (MSDE) has adopted definitions for “Distance Learning” that guided the development of Maryland’s K-12 programs. They can be located [here](#).

⁵ Mayadas, F. "Asynchronous learning networks: a Sloan Foundation perspective". 1997

⁶ George Washington University. "What is Asynchronous Learning?", 2021

⁷ National Center for Learning Disabilities, *Key Terms Regarding Online Learning and Education Technology*, 2020

⁸ National School Choice Week, *K-12 School Terms Made Simple (Education Glossary)*, 2022

⁹ While there are multiple definitions of blended learning, some of which include a mix of in-person and virtual education, the report refers to the fully virtual approach when discussing blended learning.

central portal that contains lessons, homework, grades, and all pertinent links needed in the virtual classroom.¹⁰ Common examples include Blackboard, Canvas, and Schoology.

- **Brick and Mortar School** refers to schools where students attend classes in a physical building.
- **Open Educational Resources** are free digital media for education uses, such as YouTube videos, short lectures, virtual labs, and other online educational resources. Instructors can use these resources as core course content, supplemental learning, or targeted resources to help students struggling with key concepts.¹¹
- **Individualized Education Program (IEP)** is a legal roadmap for individualized supports and services a child with disabilities will receive to aid them in learning and succeeding in school. They are free in public schools, reviewed annually to make changes in services and supports, and more involved and specialized than a **504 plan**, which outlines accommodations and modifications a student needs to ensure academic success. Generally, students with a 504 plan and IEPs generally learn alongside their peers in mainstream classrooms rather than receiving individualized special education instruction.¹²

B. Overview of K-12 Virtual Schools in the U.S.

The first K-12 virtual school was launched in the summer of 1995, through the Cyberschool project in Eugene, Oregon and it offered supplemental online high school courses. Soon after, an experimental web school in Orange County, CA began, which was the precursor to the Florida Virtual School, which began in 1997 and was one of the first schools to offer full-time K-12 education.¹³

The growth of large state programs such as the Florida Virtual School led to a growing awareness of K-12 virtual education. Just like traditional brick-and-mortar schools, many virtual schools have a central office, administrators, teachers, daily attendance, grades and report cards, special-education, health services, and more. Families choose virtual school for a variety of reasons such as: curriculum quality or focus, highly individualized instruction, flexible scheduling, and ease of access for highly mobile families (i.e., military families).¹⁴

¹⁰ [U.S. Department of the Interior Bureau of Indian Education, Learning Management System \(LMS\), Accessed 5/15/22](#)

¹¹ [Harvard Office of the Vice Provost for Advances in Learning, Using Digital Resources to Augment Course Materials, Accessed 5/15/22](#)

¹² *Ibid.*

¹³ [Bellwether Education Partners, Promise in the Time of Quarantine: Exploring Schools' Responses to COVID-19, 2020](#)

¹⁴ *Ibid.*

Enrollment for virtual schools in the United States continues to grow. As of the 2019 to 2020 school year, there were 477 full-time virtual schools operating, which enrolled 332,379 students. This is an increase of 34,600 students compared to the 2017 to 2018 school year.¹⁵ Approximately half of the 477 virtual schools are charter schools and account for nearly 75% of national enrollment. The number of district-run virtual schools has been increasing but tend to be smaller programs and enroll fewer students.¹⁶

There are four common governance structures for K-12 virtual schools, which are state virtual schools typically run by a state education agency, schools that are run by a single school district, schools that are run by multiple districts, and schools that are run by a consortia which can be national, multi-state, or regionally run.¹⁷

While there are private and for-profit online K-12 school options that charge students tuition, this report will focus on tuition-free online public schools, which are generally run by school districts or state governments. These schools are held to the same academic standards and policies as their physical public-school counterparts, which is not always the case for private, for-profit virtual schools.

C. Legal Framework for K-12 Virtual Education

There are numerous Federal and Maryland State laws that apply to K-12 virtual education. This section summarizes the most pertinent laws and regulations. At the Federal level, there are three primary laws that are applicable to remote learning which are:

- **Federal Educational Rights and Privacy Act (FERPA)** Enacted in 1974, FERPA protects the privacy of educational records for students in schools that receive any funding from the United States Department of Education (DOE). For remote learning, FERPA does not have specific guidance on which software apps can be used but does suggest that school districts should work with information security officers to ensure that students' personal identifiable information (PII) is protected. Teachers should also ensure that if video lectures are recorded, that students' PII is protected.¹⁸
- **Children's Online Privacy Protection Act (COPPA)** Enacted in 2000, COPPA requires websites and online service providers to transparently communicate their privacy policies to parents and to take reasonable steps to maintain the confidentiality of children's information. COPPA applies to all software, including third-party companies that provide schools with online educational services.¹⁹

¹⁵ [National Education Policy Center, Virtual Schools in the U.S. 2021](#)

¹⁶ Ibid.

¹⁷ [Center for Public Education, Searching for the Reality of Virtual Schools](#)

¹⁸ [United States Department of Education, FERPA & Virtual Learning During COVID-19, 2020](#)

¹⁹ [Federal Trade Commission, Children's Online Privacy Protection Rule \(COPPA\), 1998](#)

- **Technology, Education, and Copyright Harmonization Act (TEACH Act)** Enacted in 2002, the TEACH Act limits infringement liability for nonprofit educational institutions, such as K-12 public schools.²⁰ The Act allows teachers to show copyrighted works in lessons without prior permission, such as films. It should be noted there are certain platforms that use algorithms to automatically detect and block infringements of copyrighted works despite permission from copyright owners or the law, so teachers can still run into issues when using these materials for lessons. As virtual education instructors often rely on the internet for delivering materials, this can impact the variety of materials they can use.

At the State level, there are a variety of laws and regulations that apply to virtual education administered by any school district in Maryland.

- **The Maryland Virtual Learning Opportunities (MVLO) program.** Established by H.B. 1197 in 2002 and managed by the Maryland State Department of Education (MSDE), the MVLO provides school districts with access to supplemental content and online courses, including credit-bearing courses.²¹ Typically, students enroll in MVLO-approved courses by requesting enrollment through their home school. Local districts are responsible for recording of credits and grades and for all fees incurred by online courses.²²
- **H.B. 1362** was passed in 2010 and authorizes school districts to establish fully online, virtual public schools under the approval of MSDE. It should be noted that Maryland does not allow full-time online charter schools in the State. However, charter schools can develop a “blended” model where students still attend a physical school but have a substantial portion of their curriculum delivered through online courses.^{23 24}
- **Chapter 7, Subtitle 14 of the State Code** This part of the Code outlines virtual school policies and regulations including: enrolled students having access to an approved curriculum that meets or exceeds the standards adopted by the relevant county board; the same length of time for learning opportunities per academic year required for public school students; and regular assessment in the core areas of instruction pertaining to Virtual School policies and regulations.²⁵

²⁰ [United States Senate, Technology, Education and Copyright Harmonization \(TEACH\) Act \(S. 487\), 2001](#)

²¹ Maryland defines credit-bearing online courses as those that meet State standards and are administered at least 80% online.

²² [University of Maryland, K-12 Online Education: What are the Policy Implications for Maryland?, 2015](#)

²³ Ibid.

²⁴ The College Park Academy is an example of this blended model, which is run by Connections Education, a Pearson subsidiary.

²⁵ Quality online education standards refers to the National Standards for Quality Online Programs: Second Edition (2019).

The Code of Maryland Regulations (COMAR) further outlines acceptable activities for synchronous and asynchronous learning in virtual education. Acceptable activities in synchronous learning are direct teacher instruction, targeting small group instruction, teacher led large and small group discussions, collaborative groups, assessment/checking for understanding, office hours that include meeting with students, and guided instruction. Acceptable asynchronous learning includes digital platform instruction, pre-recorded video lessons, resource videos, assigned readings, independent practice, paper/pencil learning activities, rotation/center activities, and posted assignments.²⁶

D. Montgomery County Public Schools Virtual Education Options

Montgomery County Public Schools (MCPS) offers three main virtual education options for students. Two of these, Interim Instructional Services and Student Online Learning, were established prior to the pandemic and are not intended as permanent and full-time virtual options (unlike the Montgomery Virtual Academy).

- **Interim Instructional Services (IIS)** is designed to meet the needs of K-12 students who are unable to participate in their home school due to a physical or emotional condition. It is a short-term program, and approved applications to IIS are valid for up to 60 days and can then be renewed if needed.
- **Student Online Learning** encompasses four categories of online courses available at MCPS. Except for the Online Pathways to Graduation program, students who enroll in these courses still attend their home school's in-person classes and take these online courses on their own time.
 - The Online Pathway to Graduation is a school-year long program that allows current and former MCPS students who have completed at least one year of high school to meet some of the academic requirements for a Maryland high school diploma through online courses.²⁷
 - Blended learning courses are online courses that satisfy MCPS and State graduation requirements. Students can take them outside of their regular school day.²⁸
 - Online Advanced Placement (AP) courses offered through the Maryland State Department of Education (MSDE) can be taken by MCPS high school students in an "a la carte" manner. Students who enroll in this program complete these courses

²⁶ [Maryland State Department of Education, Maryland Together: Maryland's Recovery Plan for Education, 2020](#)

²⁷ [Montgomery County Public Schools, Online Pathway to Education, Accessed 6/7/22](#)

²⁸ [Montgomery County Public Schools, Blended Learning, Accessed 6/7/22](#)

outside of the school day if the course is not available at the local school or if the student cannot schedule the course within their school day schedule.²⁹

- The Central High School Summer Program (CHSSP) offers summer online courses that students can take for grade replacement, grade improvement, or original credit. It is offered over the summer in two sessions and provides sites for in-person support during the sessions, as well as virtual live support sessions.³⁰
- **The Montgomery Virtual Academy** is the newest virtual education program offered by MCPS established in 2021 and is the only full-time virtual K-12 comprehensive and fully online education option open to the general student population. In a survey conducted by the Montgomery Virtual Academy, students and families in the Virtual Academy reported a variety of reasons for choosing the program:
 - Enjoyed virtual learning during the pandemic;
 - Flexibility (i.e., some students are working to support their family, need to accommodate internship schedules, etc.);
 - Long-term illness/lowered immune system which makes attending physical schools difficult or impossible;
 - Peer group change; and
 - More focused and individualized learning environment.

The Montgomery Virtual Academy is divided into a lower school (K-5) and an upper school (6-12) with a central administrative team for both. Both schools are fully staffed with counselors, special education staff, and ESOL staff. Below is a summary of the online learning model and schedule for each school. Tables of sample daily schedules for each level are included in the appendix.³¹

GRADES K-5

- The lower school requires students to participate in daily synchronous math and literacy instruction. Students also received daily social-emotional learning instruction. In addition, students complete asynchronous lessons for science, social studies, and/or health on a weekly basis as directed by grade level curriculum.³² Students will also participate in synchronous art, music, and physical education lessons on a weekly basis.
- Students are expected to spend anywhere from 11-13.5 hours per week engaging in live classroom meetings, completing assignments, and viewing materials.
- Textbooks for math, literacy, and social-emotional learning as well as additional instructional supplies are provided for elementary families to pick up.

²⁹ [Montgomery County Public Schools, Online Advanced Placement Courses, Accessed 6/7/22](#)

³⁰ [Montgomery County Public Schools, Central High School Summer Program, Accessed 6/7/22](#)

³¹ See Appendix

³² In FY23, students will be expected to participate in synchronous instruction for all subjects on a daily basis.

GRADES 6-12

- The upper school operates on an A and B day schedule and attend 7 classes every week. Middle school students attend classes from 8:15 AM – 2:15 PM and from 2:20 PM – 3:00 PM is blocked out every day for student support. High school students attend classes every day from 7:30 AM to 2:15 PM, with student support built into their schedule as an 8th period. Both middle and high school students attend an advisory period from 12:35 PM – 1:00 PM every day; this advisory period consists of asynchronous learning activities on Tuesdays and Thursdays.
- Students are expected to engage in a full schedule of courses and will complete one to two graded assignments/assessments each week for each course (this is parallel to expectations in MCPS brick-and-mortar schools. Total time will vary based on course level and the full range of assignments received from all subjects.

Possible Future Expansions. Ideas for expanding programming at the Virtual Academy were presented at an April 2022 Board of Education (BOE) Meeting.³³ Many of the proposed expansions were Science, Technology, Engineering, Arts, and Mathematics (STEAM) focused and included:

- An innovative technology center that has multiple “strands of focus” including cybersecurity, bioscience, digital literacy and citizenship, digital art, and computer science.
- Learning experiences including virtual field trips, artists in residence, STEAM-related clubs and afterschool programs, and professional learning.
- Expansion of offered certifications such as mobile app development, data analytics, artificial intelligence engineering, data science, and other technology industry-recognized certifications.
- Expansion of the Student Government Association (SGA) and extra-curricular opportunities and clubs for the Virtual Academy.
- New courses including more Advanced Placement (AP) courses, language immersion courses, and electives like music technology and LGBTQ studies.
- Realigning staffing and scheduling to better meet the needs of supporting instruction.

E. Summary of Available Data on the Montgomery Virtual Academy

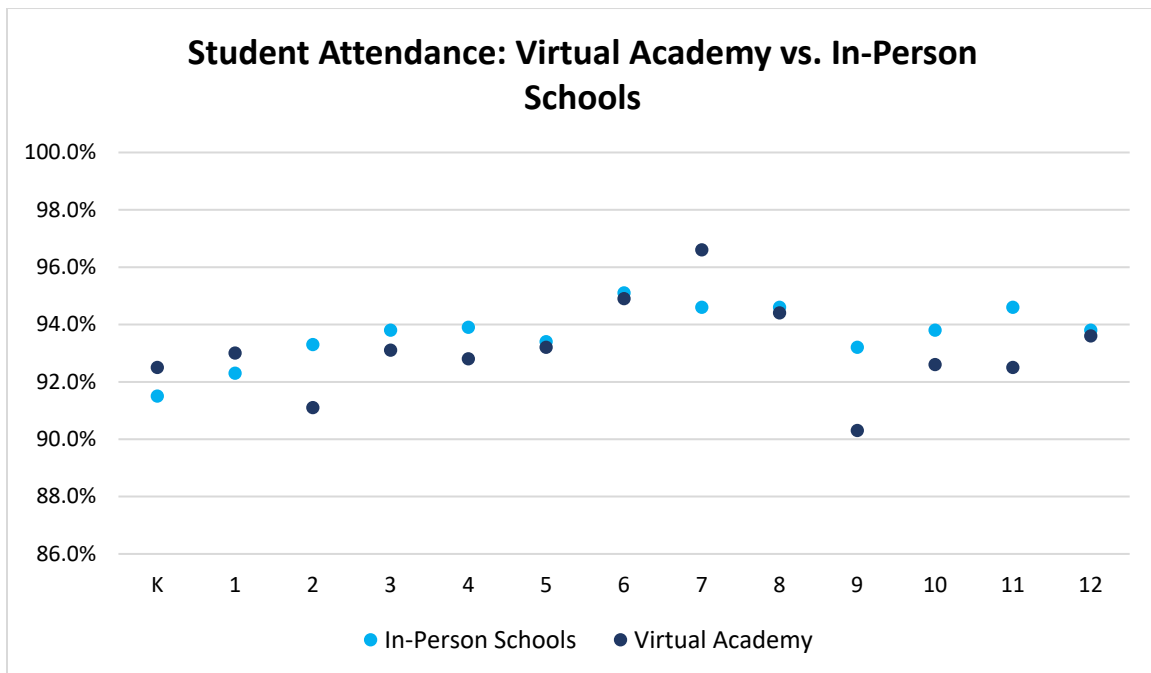
As of the Spring 2022 semester, MCPS’ Virtual Academy has 2,735 students, 747 of which are high school students, 652 middle school students, and 1,336 elementary school students. The

³³ Digital innovation for all of MCPS was presented as well and included: expanding course and certification access through our student online learning program (not full time) and creating a digital innovation center that focuses on K-12 STEAM experiences for students. Student Online Learning expanded their offering this summer to accommodate close to 6000 high school students engaged in virtual classes. The Digital Innovation Center work is in the initial stages with several pilots starting this school year.

Virtual Academy collected and reported on data from its first full year of instruction, including grades, attendance, and data from a survey sent to students, teachers, and families. The following is a summary of the data reported by the Virtual Academy that was presented at the 4/7/2022 BOE meeting:

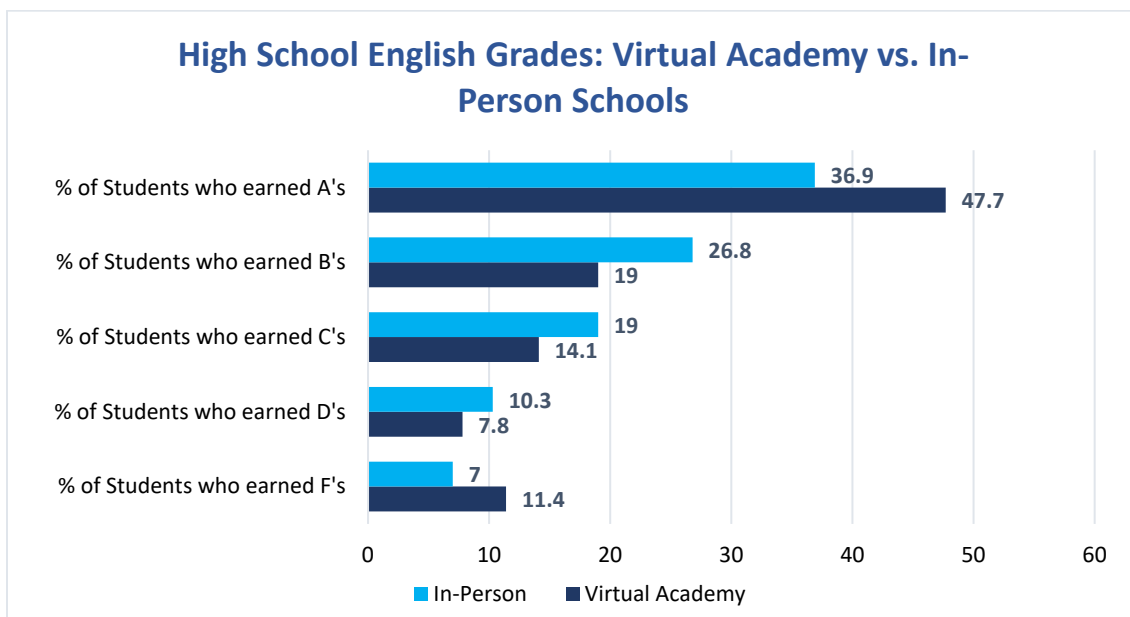
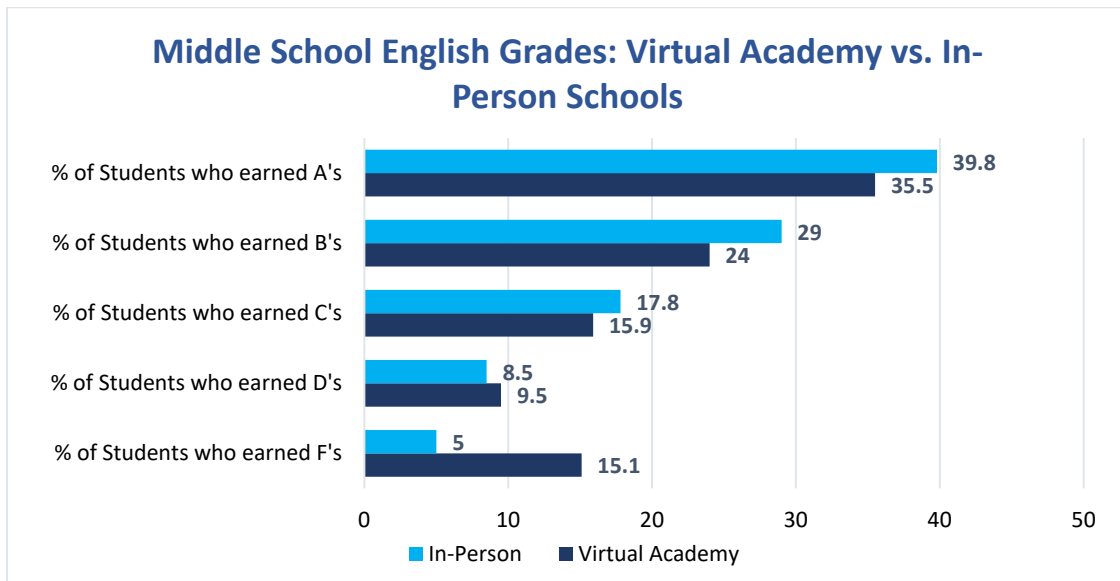
- Black students comprised the largest demographic group (33%), followed by Hispanic (26%), Asian (22%), and White (13%);
- 12.5% of students were English Speakers of Other Languages (ESOL);
- 14.9% of students received special education services;
- 44.8% of students were eligible for Free and Reduced-price Meals (FARMS); and
- 56% of students plan on returning to the Virtual Academy next year (32% have not responded or undecided).

Attendance. A comparison of attendance rates for the Virtual Academy versus in-person schools were also presented at the BOE meeting, shown in the chart below. Overall, the total attendance rate difference between the Virtual Academy and in-person learning environments was about 0.6% (in person at 93.7% vs. virtual at 93.1%)

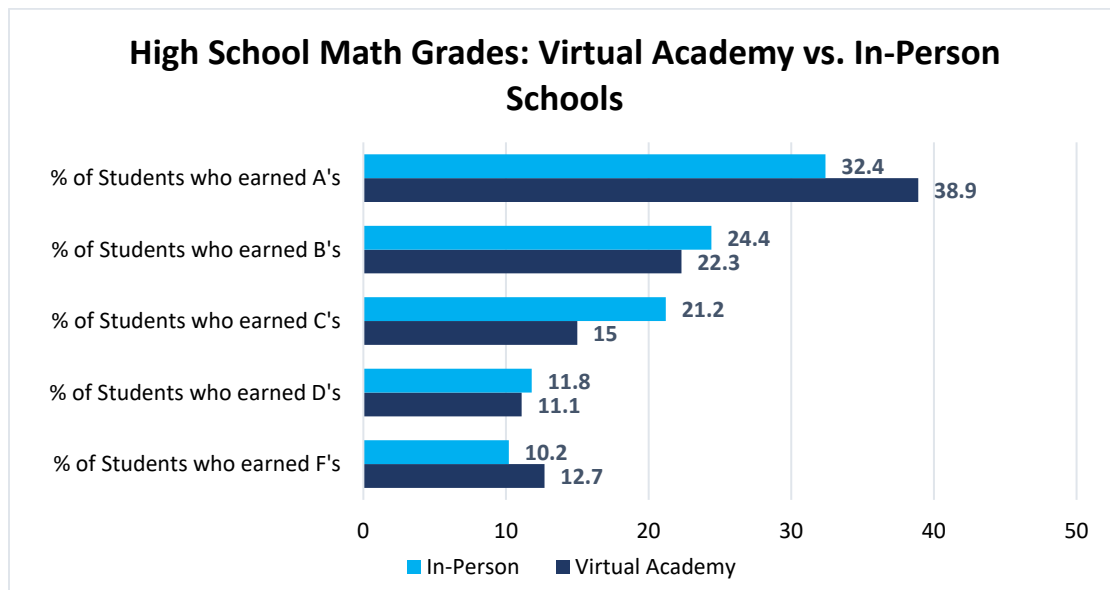
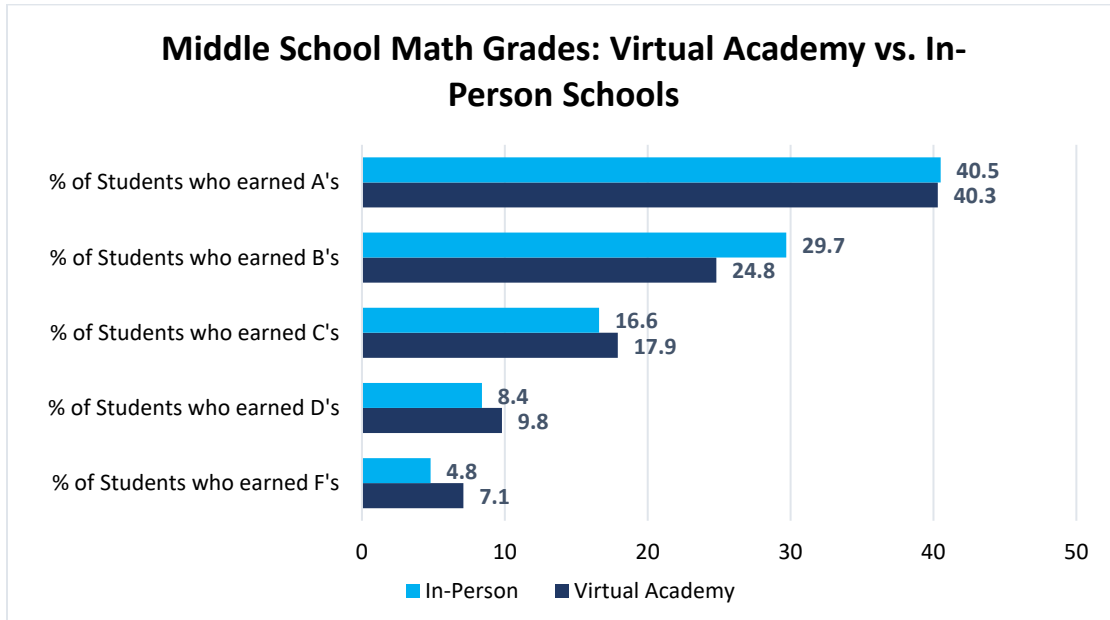


Comparison of Grades. The following four graphs compare students' grades in the Virtual Academy and in-person schools. It compares grades covering the same curriculum, one English and one math for both middle and high school.

English. As shown in the graphs below, about 10% more high school students in the Virtual Academy earned A's in the English class compared to in-person students. Middle schools showed the opposite – five percent more of in-person students earned A's. Both school types showed similar patterns for B-F grades; however middle school showed a more significant difference between virtual students who earned F's (15%) and in-person students (5%).



Math. For middle school math classes, the gap between students who earned A's in-person compared to the Virtual Academy is much smaller compared to English as there's only a 0.2% difference. For high school students, about 6% more Virtual Academy students earned A's compared to their in-person counterparts. Compared to the English class data, there was a smaller gap between Virtual Academy students and in-person students who earned F's at both the middle and high school level.



Chapter 3. Advantages and Disadvantages of K-12 Virtual Schools

While K-12 virtual education has existed for nearly three decades, there are still many gaps in the research literature. For example, more research for online learning has been conducted for adult learners in post-secondary environments than for K-12 students. Most findings from these reports should be cautiously used for implementation in K-12 virtual schools, as younger students have different needs compared to adult learners.³⁴ For K-12 studies, many students are limited by short time spans or have a narrow focus and should therefore not be used to draw generalized conclusions but instead suggest further investigation.³⁵

There are also conflicting conclusions drawn by studies on the learning outcomes of virtual schools compared to brick-and-mortar schools. Some studies report no significant difference in the learning outcomes of K-12 students enrolled in virtual school full-time compared to those in brick-and-mortar schools.³⁶ On the other hand, a recent study conducted by the National Education Policy Center (NEPC), a nonprofit education policy research center at the University of Colorado at Boulder, found that in general, virtual school performance lags significantly behind brick-and-mortar schools.

One consideration is many of these studies, including the recent study conducted by the NEPC, do not separate for-profit virtual schools from not-for-profit virtual schools, which includes district-run schools. As for-profit virtual schools are generally not beholden to state and local board of education standards, the quality of education can vary. However, all school district-run virtual schools are held to the same standards as the brick-and-mortar schools in their district. This is shown in the NEPC report as far more district-operated full-time virtual schools achieved acceptable state school performance ratings compared to charter-operated schools.³⁷ Overall, research shows that given instruction of equal quality, groups of students learning online generally achieve at levels equal to their peers in brick-and-mortar schools.³⁸

OLO further notes that it is important to view virtual schools as an option for some students, not all students. There is research that shows some students with special health care needs can benefit greatly from virtual education.³⁹ Some of these students, especially those with physical disabilities and lowered immune systems, cannot attend school physically so virtual schools

³⁴ [U.S. Department of Education, Understanding the Implications of Online Learning for Educational Productivity, 2012](#)

³⁵ [National Education Policy Center, Virtual Schools in the U.S. 2019, 2019](#)

³⁶ [Cavanaugh, C., Gillan, K., Kromrey, J., Hess, M., and Blomeyer, R., The Effects of Distance Education on K-12 Student Outcomes: A Meta-Analysis, 2004](#), Falck et al, 1997; Goc Karp & Woods, 2003; Hinnant, 1994; Jordan, 2002; Kozma et al, 2000; Mills, 2002; Ryan, 1996, McGreal, 1994.

³⁷ [The Washington Post, New Report Provides Reality Check on Virtual Schools, 2021](#)

³⁸ [Learning Point Associates, The Effects of Distance Education on K-12 Student Outcomes: A Meta-Analysis](#)

³⁹ [Fernandez, H., Ferdig, R. E., Thompson, L. A., Schottke, K., and Black E. W., Students with Special Health Care Needs in K-12 Virtual Schools, 2016](#)

allow them to keep up academically with peers.⁴⁰ Therefore, grades are not always the most important indicator for a student's success to track. Attendance, student satisfaction, and direct feedback from teachers, students, and families can better show if virtual education is a good fit for students. It can also be more accurate to compare an individual students' academic records from in-person classes to their virtual classes, as comparing all grades from a virtual school to a brick-and-mortar school may not accurately show all academic successes in virtual education.⁴¹

This chapter outlines the advantages and disadvantages of K-12 virtual schools as identified by a review of literature in the K-12 education field and stakeholder feedback and discusses equity considerations of virtual education. It is organized by the following sections.

- A. Advantages of K-12 Virtual Education**
- B. Disadvantages of K-12 Virtual Education**
- C. Equity Considerations**

A. Advantages of K-12 Virtual Education

Despite conflicting conclusions on the learning outcomes of virtual schools compared to brick-and-mortar schools, there are some concrete benefits of virtual schools and online classes which include:⁴²

- Increased enrollment;
- Broader educational opportunities for those who cannot attend traditional schools;
- Access to resources and instructors that are not locally available otherwise;
- Increases in student-teacher communication; and
- Some students enrolled in online learning showed greater improvement in critical thinking, researching, digital literacy, problem solving, decision-making, and time management.

The remainder of this section investigates the advantages of K-12 virtual education from the perspectives of students and teachers. OLO identified the advantages through literature review and stakeholder interviews.

Advantages for Students

- **Individualized learning.** Many virtual schools offer individualized learning plans and pathways, which can provide flexibility and access to courses and resources that align with a student's interests. Further, individualized pacing is often built into these plans,

⁴⁰ Ibid.

⁴¹ Stakeholder Feedback

⁴² [National Education Policy Center, Virtual Schools in the U.S., 2019](#)

which allows students to learn at a slower or faster pace, depending on their mastery of course concepts.⁴³

- **Less classroom distractions.** Some students can benefit greatly from taking courses in a virtual environment, especially those who are affected negatively by traditional classroom distractions such as background noises and conversations. It is much easier to filter these distractions out in a virtual classroom.⁴⁴
- **More course opportunities.** Online courses can reach students across geographic boundaries, which allows access to courses and instructors that would otherwise be unavailable to some students.⁴⁵ This is due in part to the scalability of educational technology and the ability for teachers and students to access courses from anywhere with an internet connection.⁴⁶
- **Flexible schedules.** For virtual schools that have asynchronous models, students are granted the flexibility to access and engage in course material at any time of the day.⁴⁷ This is helpful for students who work, are taking college courses part-time, or for highly mobile families.⁴⁸
- **Ability to attend school from home.** Students with physical disabilities and other health concerns who are unable to attend brick-and-mortar schools can easily access classes and spend less time worrying about the accessibility and safety of physical buildings and classrooms.⁴⁹
- **Access to Accessible Tools.** Many developers of learning management systems (LMS) and other digital tools used for virtual and online instruction have built Americans with Disabilities Act (ADA) compliance standards into their software. This includes a range of speech and touch activated tools, which increase access to course content for disabled students.⁵⁰

⁴³ [American Educational Research Association, Online Learning, Offline Outcomes: Online Course Taking and High School Student Performance](#)

⁴⁴ Stakeholder Feedback

⁴⁵ [U.S. Department of Education, Understanding the Implications of Online Learning for Educational Productivity, 2012](#)

⁴⁶ Stakeholder Feedback, [Jacob, B. Berger, D. Hart, C. Loeb Susanna \(2016\). “Can Technology Help Promote Equality of Educational Opportunities?”, 2016](#)

⁴⁷ [Toppin, I. N., and Toppin S. M., Virtual Schools: The Changing Landscape of K-12 Education in the U.S., 2016](#)

⁴⁸ Ibid.

⁴⁹ [Fernandez, H., Ferdig, R. E., Thompson, L. A., Schottke, K., and Black E. W., Students with Special Health Care Needs in K-12 Virtual Schools, 2016](#)

⁵⁰ [Toppin, I. N., and Toppin S. M., Virtual Schools: The Changing Landscape of K-12 Education in the U.S., 2016](#)

- **Retention of students.** Virtual schools provide an option for students who would otherwise not be able to attend physical schools to stay on track with their peers and graduate. It can provide failing or at-risk students with remediation instruction and materials to help recover credits and stay on track for graduation.⁵¹
- **Opportunity for access to quality computer science education.** A Brookings article reported that providing K-12 students with access to quality computer science education is increasingly seen as an urgent priority for public school systems in the U.S. and other school systems around the globe.⁵² More industries and employers are searching for applicants with strong computer science skills and it is important that K-12 public schools lay down a strong foundation for students to build these skills. However, computer science education is not offered uniformly across the U.S. and is uneven across student populations. Online schools are unique in that they can offer computer science education to students who learn computer literacy and apply those skills to all subjects.⁵³

Advantages for Teachers

- **Improved classroom management.** Digital tools can aid teachers in classroom management, which is defined as “the act of supervising relationships, behaviors, and instructional settings and lessons for communities of learners.”⁵⁴ For example, teachers can mute a student if they are distracting the class and privately message the student to check in.
- **Improved ability to track student comprehension.** Some teachers have been utilizing polling functions in their virtual classrooms that allow students to anonymously answer multiple-choice questions and allows these teachers to instantly check all students’ understanding. Many online courses and assignments also provide teachers with data on student growth and their progress towards mastery of concepts.
- **Flexibility of Schedules.** Like other remote workers, teachers who teach from home are spending less time commuting to work. Further, virtual teachers report that as they do not have extra non-teaching duties that their brick-and-mortar counterparts do, such as lunch duty or after-school bus duty, they have more time to either plan for class or engage with students who may need help.⁵⁵

⁵¹ Stakeholder Feedback, [Toppin, I. N., and Toppin S. M., Virtual Schools: The Changing Landscape of K-12 Education in the U.S., 2016](#)

⁵² [Brookings, Exploring the State of Computer Science Education Amid Rapid Policy Expansion, 2022](#)

⁵³ [National Conference of State Legislatures, Promoting Digital Literacy and Citizenship in School, 2017](#)

⁵⁴ [Marzano, R. J. and Marzano, J. S., The Key to Classroom Management, 2003](#)

⁵⁵ Stakeholder Feedback, [Cardullo, V., Wang C., Burton, M., and Dong, J., K-12 Teachers' Remote Teaching Self-Efficacy during the Pandemic, 2021](#)

- **Improved educational technology skills and literacy.** A survey that measured teachers' confidence in using education technology after the remote learning experience brought about by COVID-19 found that 77% of teachers who responded believe their exposure to educational technology during the pandemic will help them be more effective post-pandemic. Utilizing education technology through virtual education can help teachers develop more professional skills and some reported benefits by teachers include improved student engagement, differentiated and individualized instruction, and flexible access to instructional content for students.⁵⁶
- **Expanded Teaching Opportunities for Teachers With Physical Limitations and Disabilities.** Teachers who struggle with the physical demands of in-person teaching due to permanent injury or other physical limitations have found they can be successful in the virtual classroom and do not feel they need to shorten their teaching careers.

B. Disadvantages of K-12 Virtual Education

While online learning can have significant positive outcome for students, there are potential disadvantages of this medium that can pose potential threats to the success of any online program. The remainder of this section investigates potential weaknesses of K-12 virtual education from the perspectives of students and teachers. OLO identified these through literature review and stakeholder interviews.

Screen Time Impacts Both Students and Teachers

An increase in screen time is a disadvantage that impacts both students and teachers. Some research associates excessive screen time with a range of negative mental health outcomes such as psychological problems, low emotional stability, and a greater risk for depression or anxiety.⁵⁷ OLO notes there are mixed results from no significant impact to a moderate impact of screen time on health, but it is an emerging field of study and should be considered as a possible disadvantage.

⁵⁶ [HMH and YouGov, 7th Annual Educator Confidence Report, 2021](#)

⁵⁷ [Allen, M. S., Walter, E. E., and Swann, C., Sedentary Behaviour and Risk of Anxiety: A Systematic Review and Meta-Analysis, 2019, Aziz Rahman, M., Hoque, N., Sheikh, M., Salehin, M., Beyene, G., Tadele, Z., et al., Factors Associated With Psychological Distress, Fear and Coping Strategies During the COVID-19 Pandemic in Australia, 2020](#)

Disadvantages for Students

- **Less opportunities for socialization.** Both research and stakeholders confirm it can be difficult to create opportunities for students to socialize in virtual schools. This can lead to a lack of a sense of community for virtual school students.⁵⁸ In brick-and-mortar schools, students have more opportunities to socialize with each other, such as between classes, lunch time, and after-school activities. While many virtual school students have access to the same after-school activities through their home school, oftentimes there is no school-provided transportation to get to these activities.
- **Accessibility issues for students.** While students choose to attend virtual school, it is important to investigate the accessibility of these schools. There could be students who excel in these learning environments but cannot access the learning tools they need, such as high-speed internet, a guardian to oversee their learning, or devices to aid in the immersion of learning such as a second screen. Recent data indicate there are still significant disparities for broadband access across the country by age, gender, income, and geography.⁵⁹ Further a strong digital divide between urban and suburban areas with high incomes and rural and urban areas with low incomes still persists.⁶⁰
- **Necessary Digital Literacy.** There is a baseline competency for technological skills in order for students to succeed in virtual courses. If students lack these skills, it can be difficult for them to make full use of course content, in addition to spending extra time and energy learning how to navigate online courses. Younger students especially may lack this competency in digital literacy as well as general literacy and reading comprehension which can also hinder the effectiveness of virtual education.⁶¹
- **Less Teacher Oversight.** Multiple stakeholders informed OLO one major disadvantage of virtual schools is that it is much easier for students to “disappear.”⁶² School systems seeking to balance student privacy and student engagement may not always require that students have their camera or microphone on during synchronous lectures. While there are mechanisms that can be used to check engagement like in-the-moment polls, messenger, chat apps, and drawing students into one-on-one breakout rooms, it can be difficult for teachers to monitor all students’ engagement at the same time compared to brick-and-mortar classrooms. It is reported that it is easier for students to go through the motions of seeming engaged but then struggling when it comes to assignments and

⁵⁸ [Toppin, I. N., and Toppin S. M., Virtual Schools: The Changing Landscape of K-12 Education in the U.S., 2016](#)

⁵⁹ [Pew Research Center, Internet/Broadband Fact Sheet, 2021](#)

⁶⁰ [Congressional Research Service, State Broadband Initiatives: Selected State and Local Approaches as Potential Models for Federal Initiatives to Address the Digital Divide, 2020](#)

⁶¹ Stakeholder Feedback

⁶² Stakeholder Feedback

assessments. Some teachers are concerned their interventions in a struggling student's academic journey are starting later than they should and believe they could see some of the signs of struggling in a brick-and-mortar setting quicker. Overall, this format of learning may not be appropriate or the best environment for some students.

- **Need of a Dedicated Parent or Guardian.** It can be difficult for students to perform strongly in a virtual setting without a dedicated parent or guardian supporting their academic journey. For younger students especially, it is strongly recommended (and in some cases required by programs) that guardians are always available during the time their student(s) are attending school. Having to be available at all times during a student's virtual school day is not possible for all guardians, especially those who have work or other obligations during the day. Further, strict requirements for guardians can prevent students from attending virtual school, who otherwise would be a perfect fit.

Disadvantages for Teachers

- **Additional Required Training.** On top of professional development teachers already participate in, online teaching presents a whole new set of skills and teaching practices that teachers must be trained for. Unfortunately, undergraduate programs often do not adequately prepare teachers for utilizing educational technology so many trainings are conducted once teachers are already in a teaching role.⁶³ In general, a single educational technology course does not sufficiently prepare teachers for the virtual classroom and there needs to be continuous trainings that teachers attend to build up skill sets necessary for the virtual classroom.⁶⁴ This can place a large time burden on teachers and make it difficult for them to balance other duties, especially if professional development supports are not provided by their schools.
- **Adapting courses and teaching style.** For some virtual schools, the burden of adapting courses and curriculum for online learning was placed on teachers. One study found that several teachers felt they did not have the confidence or resources to adapt class materials to online courses. Many teaching techniques and pedagogies used in brick-and-mortar schools do not work in a virtual classroom setting, so teachers must develop new techniques and styles of teaching to be effective in this setting.⁶⁵
- **Technology Issues.** There is always the potential of technical issues when utilizing technology. Issues such as outages can significantly impact teachers' instruction and can

⁶³ [U.S. Department of Education, Advancing Educational Technology in Teacher Preparation: Policy Brief, 2016](#)

⁶⁴ Ibid.

⁶⁵ Ibid.

be frustrating. Further, some software and tools purchased by virtual schools may not always be compatible, which can lead to a clunky delivery of instruction.⁶⁶

- **Potentially larger class sizes.** Several online schools have much larger class sizes and some teachers report difficulty in providing all students with the individualized attention they need. Some school districts have different limits for virtual class sizes compared to their brick-and-mortar counterparts. This can lead to difficulties in organizing classroom discussions, group work, and other teaching activities.⁶⁷
- **Establishing connections with students and families.** While some teachers reported having more time to connect with families and students in a virtual setting, others are concerned about not having face-to-face interactions with their students and families. Some teachers also reported concerns of not being able to see body language, facial expressions, and other important nuances of communication through virtual communication tools.⁶⁸

Virtual Academy Survey

The Virtual Academy conducted a survey of MCPS Virtual Academy students, parents, and teachers. The results reflected the research literature overall. Specifically:

- Students cited the following as most beneficial for their learning: Teacher demonstration (84.9%), Self-directed learning (68.7%), 1:1 instruction with teacher (49.2%).
- Student respondents experienced the following disadvantages at the highest rate: communicating with other students (53.8%), avoiding distractions at home (37.8%), and unclear expectations for assignments (35.7%).
- Parents cited the following as most beneficial for their student(s)' learning: "My child feels more comfort in an online learning environment (72.1%), "The instructional approach used by the teachers helps my child stay engaged in the lessons (58.2%), and "The interaction between teachers and students keeps my child engaged (54.9%).
- Teachers were asked how to further enhance the Virtual Academy. The top three responses were: more opportunities for student-to-student interaction (63.7%); more course offerings (31.9%); and more professional learning related to virtual teaching (30.4%).

⁶⁶ [Quinn, A. C., Learning to Teach Online or Learning to Become an Online Teacher: An Exploration of Teachers' Experiences in a Blended Learning Course, 2011](#)

⁶⁷ [EdSurge, K-12 Class Sizes Have Ballooned with Online Learning. It's Not a Good Thing, 2020](#)

⁶⁸ [Yang, C., Online Teaching Self-Efficacy, Social-Emotional Learning Competencies, and Compassion Fatigue Among Educators During the COVID-19 Pandemic, 2021](#)

C. Equity Considerations

K-12 virtual schools can be a great option for some students, but it is important to investigate equity considerations such as access, quality of curriculum, and accessible course design. This section provides an overview of these considerations - OLO acknowledges this is not an exhaustive list of equity considerations for K-12 virtual education.

Access. Online equity in the K-12 virtual schools context means that all basic access issues must be addressed, such as access to technology which is necessary for attending virtual schools.⁶⁹ There are still digital inequities that exist in school districts, such as lack of infrastructure, bandwidth, and devices that are needed for online learning. Further, some districts lack the financial resources needed to pay for licensing for online applications, curriculum, and additional salaries needed to keep it running. These inequities need to be addressed so all students can access online learning opportunities.⁷⁰

Further, equitable access in online programs means that students with disabilities cannot be denied access to online education due to their disability. Public schools have an obligation to provide access to the full benefit of education for all students.⁷¹

Other concerns for access include how much support students of all economic classes receive in virtual schools. For example, not all virtual schools supply free lunches for students who qualify for and receive free and reduced meals. Further, studies of student academic performance prior to the COVID-19 pandemic revealed that students exposed to economic instability showed lower levels of academic achievement than students in more stable households.⁷² Virtual school instruction likely magnifies the importance of resources, such as access to a quiet space to do schoolwork, and/or access to caregivers who can provide guidance during virtual learning sessions which can create a challenge for students to fully engage in virtual education.⁷³

Based on demographic data reported by multiple studies, access to K-12 virtual schools may be limited. One study from the Florida Virtual School analyzed data from 2005-2006 through 2012-2013 and found that Florida K-12 students who were more advantaged, both academically and economically, were more likely to take a virtual course at some point during their school career.

⁶⁹ MCPS informed OLO on the ways they mitigated these access issues which includes: providing MiFis (portable routers that use cellular signals to connect to internet), partnering with internet companies to provide service to families, providing Chromebooks for any students who needed a device, and hiring additional staff to support students with IEPs, 504s, and language plans.

⁷⁰ [Ed Tech Magazine, Why Digital Equity Still Matters for Students in Online Environments, 2021](#)

⁷¹ [North American Council for Online Learning, Access and Equity in Online Classes and Virtual Schools, 2007](#)

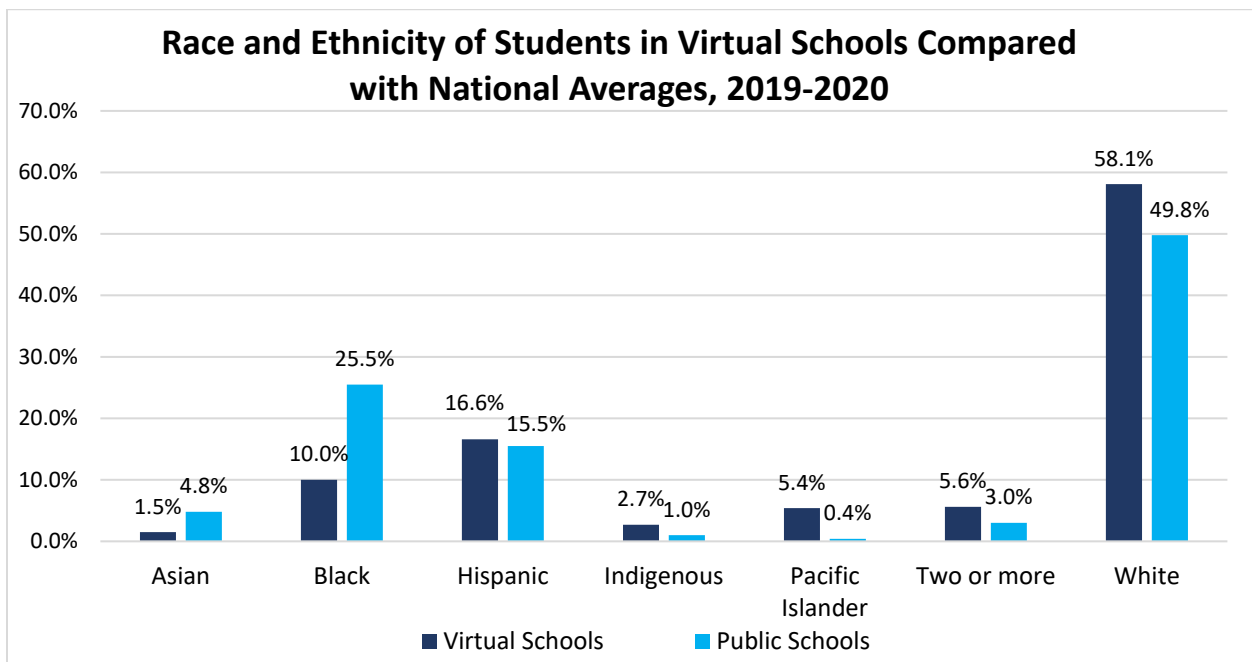
⁷² [Cutuli, J. J., Desjardins, Christopher David, Herbers, Janette E., Academic Achievement Trajectories of Homeless and Highly Mobile Students: Resilience in the Context of Chronic and Acute Risk, 2013, Herbers, Janette E., Cutuli, J. J., Supkoff, Laura M., Heistad, David, Chan, Chi-Keung, Hinz, Elizabeth, Masten, Ann S., Early Reading Skills and Academic Achievement Trajectories of Students Facing Poverty, Homelessness, and High Residential Mobility, 2012, Miller, P., A Critical Analysis of the Research on Student Homelessness, 2011](#)

⁷³ Ibid.

Overall, 21% of all Florida students took at least one virtual course and other findings for the share of students who took at least one virtual course include:⁷⁴

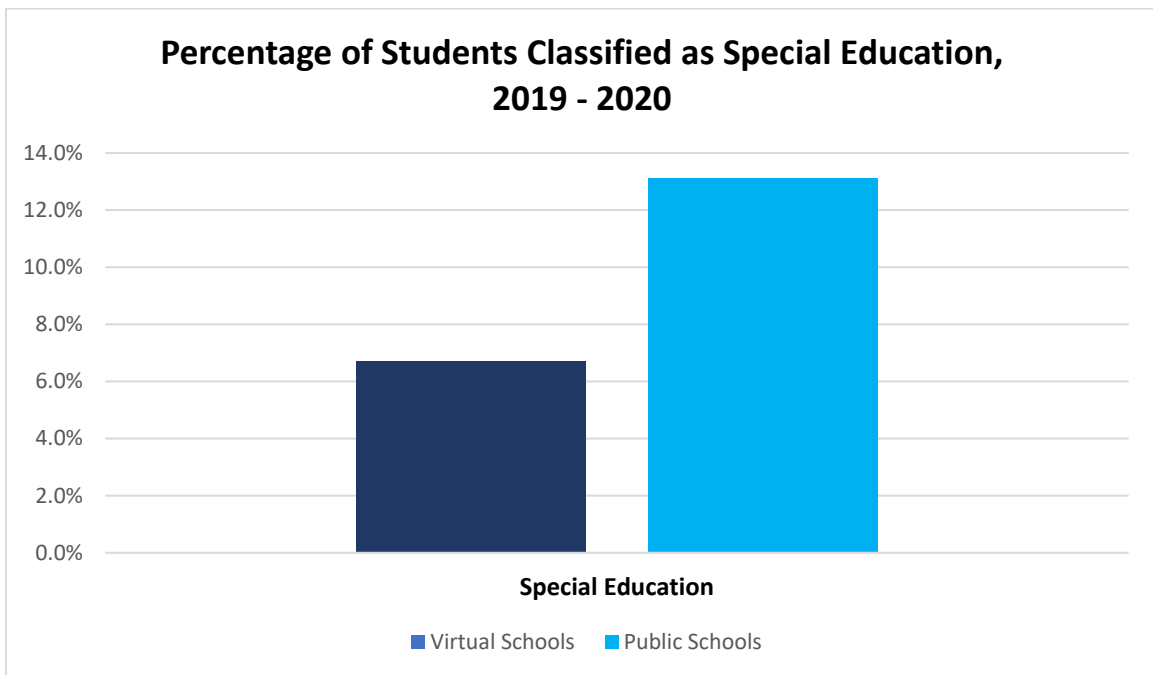
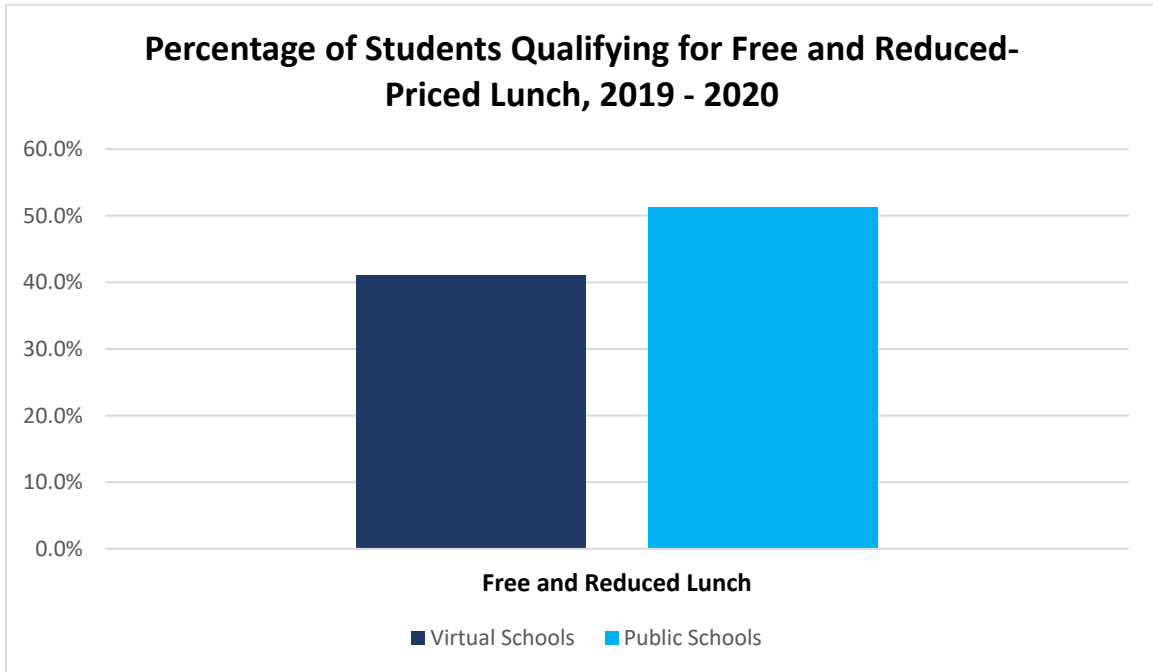
- 17.6% of students were eligible for subsidized meals;
- 13.1% of students receiving special education services, by contrast over 27% of gifted students took virtual courses;
- 14.7% of students with limited English proficiency;
- 24.67% of students who identified as female;
- 19.12% Black students;
- 16.48% Hispanic students; and
- 26.39 Asian students.

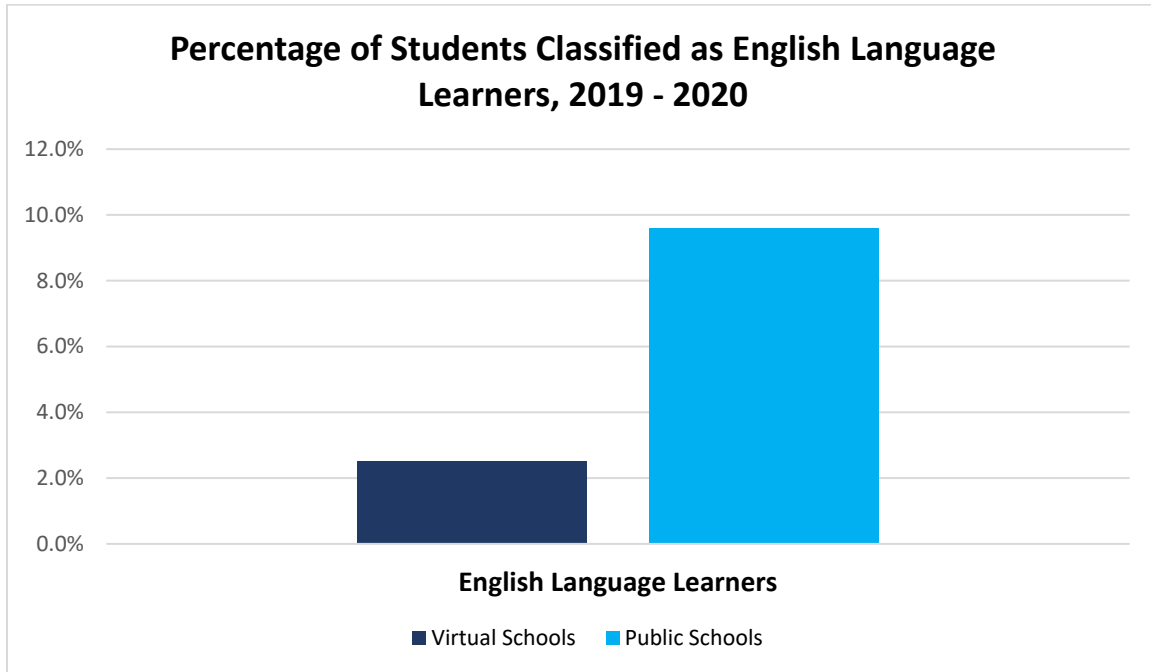
Another study compiled demographic data from the 477 virtual schools that existed in 2019 found that virtual schools enroll fewer minority students, substantially fewer low-income students, and relatively few English language learners (ELLs) compared to national public-school enrollment.⁷⁵ The tables below show the disparities.



⁷⁴ [Jacob, B., Berger, D., Hart, C., and Loeb S., “Can Technology Help Promote Equality of Educational Opportunities?, 2016](#)

⁷⁵ [National Education Policy Center, Virtual Schools in the U.S., 2021](#)





Despite current disparities, online schools have the potential to reduce differences in peer groups (such as mixing peers from schools across wide geographic areas and then can equally provide resources such as teachers and instruction across these peer groups).⁷⁶ For example, some rural districts have been able to overcome less district funding and resources compared to nonrural districts by utilizing virtual schools to decrease costs and increase access to high quality instruction and instructors for their students.⁷⁷

Accessible Course Design Another equity consideration is accessible course design, particularly for special education students. The very limited data show that in virtual schools, enrollment of special education students in virtual school is about half the national average for special education students attending school in-person.

One specific concern is some virtual schools consider IEPs and 504s on a case-by-case basis and report they may not be able to accommodate certain special-needs students.⁷⁸ One solution to this concern is the use of inclusion - many special education advocates have pushed to include more students with disabilities into general learning classrooms. Studies have shown that

⁷⁶ [National Education Policy Center, Virtual Schools in the U.S., 2021](#)

⁷⁷ [Dhaliwal, T. K. and Bruno, P., The Rural/Nonrural Divide? K-12 District Spending and Implications of Equity-Based School Funding, 2021](#)

⁷⁸ Any requirement to use a technology, including an online learning program, that is inaccessible to individuals with disabilities is considered discrimination and is prohibited by the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973, unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner. The degree to which programs make such accommodations is not yet known, however a May 6, 2022 press release from the U.S Department of Education announced their intent to strengthen and protect rights for students with disabilities by amending regulations implementing section 504.

inclusive educational settings have led to stronger math and reading skills, higher attendance and graduation rates, and fewer behavioral problems. Online learning presents opportunities for the inclusion of special education students, depending on their needs, into general education activities.⁷⁹ For example, educational technology often advertises accessibility options, such as digital tools that can read out materials, which can accommodate multiple disabilities.⁸⁰

Quality of Curriculum While less of a concern for district virtual schools, which have the same curriculum as their brick-and-mortar counterparts, stakeholders have concerns about for-profit and charter schools' level of curriculum quality. Since these schools are not legally held to the same state academic standards, it is a concern that the for-profit virtual schools, which serve more minority and low-income students may not be offering as high quality of curriculum as public schools.

Data on school performance is limited and each state measures acceptable versus nonacceptable school performance differently. However, one study shows that in general, for profit and charter schools perform worse compared to non-profit and district run schools (see table on next page).⁸¹ This is of concern since as of 2019, data shows that for-profit virtual schools had more low-income students compared to non-profits (45.8% to 38.4%) and charter virtual schools had slightly more minority students compared to district virtual schools.

Percentage of Virtual Schools with Acceptable School Performance Ratings, 2019 - 2020

School Type	Acceptable Rating	Unacceptable Rating
Full-Time Virtual	42.8%	57.2%
Independent	44.1%	55.9%
Nonprofit	64.3%	35.7%
For-Profit	37.2%	62.8%
Charter	35.2%	64.8%
District	50.7%	49.3%

Source: [National Education Policy Center](#)

⁷⁹ [Ed Tech Magazine, Why Digital Equity Still Matters for Students in Online Environments, 2021](#)

⁸⁰ [U.S. Department of Education, Understanding the Implications of Online Learning for Educational Productivity, 2012](#)

⁸¹ The study warns that there are limitations on the data and school performance results captured should be interpreted cautiously.

Chapter 4. Promising Practices and Characteristics for Success in Virtual Education

Virtual learning has become more prominent across the nation over the past few decades and researchers have identified promising practices being employed and characteristics of successful programs. OLO notes these practices are referred to as promising rather than best, as there is a lack of evidence-based research that documents best practices for K-12 virtual education.⁸² The following chapter reviews literature and stakeholder feedback in the following topics:

- A. Promising Teaching Methods;**
- B. Promising Instructional Design, Tools, and Professional Development; and**
- C. Characteristics of Successful Online Students.**

A. Promising Teaching Methods

It is essential for teachers to tailor the delivery of instruction for a virtual setting to provide the benefits of virtual education. Many successful teaching practices for brick-and-mortar classrooms do not translate to virtual classrooms. Stakeholder feedback also indicates that adapting curriculum specifically taught in brick-and-mortar schools to virtual education is generally unsuccessful.⁸³

Overall, virtual classrooms can be utilized to provide more flexible and individualized instruction, more one-on-one opportunities between students and teachers, and for integrating technology in the classroom that can teach students computer literacy at the same time they are being taught other concepts.⁸⁴

OLO identified the following categories of instructional promising practices for K-12 virtual schools through research and discussion with stakeholders:

- Feedback;
- Teaching Tools and Strategies; and
- Building Relationships.

Feedback. Feedback, especially in the moment feedback during synchronous live classes has been cited as a useful teaching practice. Teachers interviewed by OLO reported they use digital tools such as chat functions in their virtual classroom to engage students and add nuance to

⁸² [U.S. Department of Education, Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies, 2010](#)

⁸³ [Fulton Academy of Virtual Excellence Homepage, Accessed 6/14/22](#)

⁸⁴ [Bellwether Education Partners, Promise in the Time of Quarantine: Exploring Schools' Responses to COVID-19, 2020](#)

discussions. For example, teachers can add details to a class discussion in the chat without disrupting the speaker. They can also drop into breakout rooms and help guide groups of students through an activity.⁸⁵

There are some ways to improve the quality of feedback, based on research.⁸⁶

- **Being as specific as possible** – Provide students with information on where they excel and where improvement is needed.
- **Immediate Feedback** – One study found students who received immediate feedback exhibit a significantly larger increase in performance compared to those who received delayed feedback.⁸⁷
- **Goal-oriented Feedback** – Effective feedback is often oriented around a specific learning goal or achievement. The feedback students receive should be clear enough to help them progress toward their goals.

Further, teachers can utilize learning management systems and class materials to give quality feedback, such as leaving detailed feedback on the grades page, creating syllabi that clearly lays out course goals, and scheduling virtual office hours for students to check-in and get personalized feedback on their performance.

Teaching Tools and Strategies. Virtual education requires teachers to develop skills to foster interaction and communication with and between students in an online format and utilizing technology to support student collaboration and knowledge acquisition.⁸⁸ There are several teaching tools that are highlighted in literature as successful in both the physical classroom and virtual classroom; however, the virtual classroom provides unique opportunities to use these tools.

- Using built in chat functions in the virtual classroom to respond to students in the moment, either by private message or in the general chat. Teachers report that they can also go into breakout rooms, see what students are working on, and provide feedback.

⁸⁵ Stakeholder Feedback

⁸⁶ [Hattie, J. and Timperley, H., The Power of Feedback, 2007](#)

⁸⁷ [Opitz, B., Ferdinand, N. K., and Mecklinger A., Timing Matters: The Impact of Immediate and Delayed Feedback on Artificial Language Learning, 2011](#)

⁸⁸ [DiPietro, M., Ferdig, R. E., Black, E., and Preston, M., Best Practices in Teaching K-12 Online: Lessons Learned from Michigan Virtual School Teachers, 2008](#)

- Using multiple channels of communication (i.e., phone calls, texts, IM, email, and video conferencing) allows students to choose which form of communication is the best fit for them.⁸⁹
- Using multiple strategies (i.e., videos, lectures, podcasts, and interactive activities) to engage in content to suit varying student learning styles in the classroom.

There are several teaching strategies that are highlighted as successful in the virtual classroom as well.

- **Gamification of learning** is defined as “the use of game design elements in non-game settings, such as a classroom, in order to increase motivation and attention on a task.”⁹⁰ Gaming principles implemented in K-12 instruction include online courses that have a “levelling up” component, where students gain levels based on grades and tasks completed and collaborative learning games where students learn materials and how to cooperate with their peers.⁹¹ Gamifying courses and lessons have the potential to positively impact student learning by using digital tools to help students monitor their progress and provide a different way for students to engage with material in a meaningful way.⁹²
- **Social-emotional learning (SEL)** is a process for helping children develop the fundamental skills for life effectiveness, such as recognizing and managing emotions, developing empathy, establishing positive relationships, and handling challenging situations constructively and ethically.⁹³ Virtual schools in particular have implemented SEL skills into their curriculum. One key SEL skill is self-management and responsible decision-making, which is essential to fast and self-paced virtual programs.⁹⁴ Teachers have reported incorporating more social and emotional check-ins with students in the virtual classroom compared to their brick-and-mortar classrooms, which has led to stronger relationships with students.⁹⁵
- **Scaffolding** is a teaching method where teachers gradually add supports for students to aid in the mastery of teaching concepts, often by systematically building on students’ current understanding and learning ability (i.e., what assignments can students complete with no assistance) as they are learning new skills. In the virtual classroom context, teachers can use various digital tools based on a student’s grade and learning

⁸⁹ Ibid.

⁹⁰ [Simões, J., Redondo, R. D., and Vilas A. F., A Social Gamification Framework for a K-6 Learning Platform, 2012](#)

⁹¹ [Hill, D. R. and Brunvand, S., Gamification: Taking Your Teaching to the Next Level - A Guide for Gamifying your Classroom, 2018](#)

⁹² Ibid.

⁹³ [CASEL Briefs: Background on Social and Emotional Learning, 2007](#)

⁹⁴ [McGraw Hill, 2021 Social and Emotional Learning Report, 2021](#)

⁹⁵ Stakeholder Feedback

ability. For example, there are tools and software that can simplify complex coding languages and allow young students to be exposed to the basic concepts of coding, and gradually build upon their knowledge.⁹⁶

Building relationships. Building strong relationships with students and families can be essential for some students' academic success. One of the most beneficial practices to meet this goal is to have individual conferences with students, which can be implemented easily in a virtual classroom setting. In a traditional classroom, it is difficult to take a student aside without having peers nearby. With online learning, teachers can easily set up a one-on-one video conference.⁹⁷

Other practices that virtual schools have used to build strong relationships include hosting events like virtual lunches or hangouts, allowing rotating small groups of students to run virtual homerooms, and in-person meetups hosted by the schools.⁹⁸ For involving families, some virtual schools have created weekly newsletters that update families on important news and community resources, as well as teachers hosting weekly check-ins with parents to inform them on their student(s) progress.⁹⁹ Further, there are opportunities for virtual schools to utilize after school hours for enrichment and afterschool activities, just like traditional virtual schools. Since transportation is generally not provided by virtual schools, it is suggested to have a mix of in-person and virtual activities like sports and clubs that students can engage in, to build a sense of community and connect with their fellow classmates.¹⁰⁰

⁹⁶ [Jumaat, N. F. and Tasir, Z., Instructional Scaffolding in Online Learning Environment: A Meta-analysis, 2014](#)

⁹⁷ [DiPietro, M., Ferdig, R. E., Black, E., and Preston, M., Best Practices in Teaching K-12 Online: Lessons Learned from Michigan Virtual School Teachers, 2008](#)

⁹⁸ [Bellwether Education Partners, Promise in the Time of Quarantine: Exploring Schools' Responses to COVID-19, 2020](#)

⁹⁹ [Washington Post, Remote Learning has been a Disaster for Many Students but Some Kids have Thrived, 2020](#), Stakeholder Feedback

¹⁰⁰ [Education Week, Lessons from the Pandemic that can Improve Leading and Teaching, 2021](#)

National Standards for Quality Online Teaching

One widely accepted source of promising practices for teachers in virtual education is the National Standards for Quality Online Teaching, created by the Virtual Learning Leadership Alliance and Quality Matters. Subject matter experts contributed to the compilation of standards and promising practices for K-12 virtual education, separated into eight categories: (1) professional responsibilities; (2) digital pedagogy; (3) community building; (4) learner engagement; (5) digital citizenship; (6) diverse instruction; (7) assessment and measurement; and (8) instructional design.¹⁰¹ Some of the standards that are pertinent to teaching practices include:¹⁰²

- Using a variety of tools for communicating, providing feedback, explaining content, developing conceptual understanding of content presented, deepening social interactions between students, and developing an online social presence.
- Incorporating subject-specific technologies and resources to meet individualized learner needs such as open educational resources.
- Using teaching approaches to actively engage learners and foster collaborative learning, such as using digital software to monitor participation and intervening when necessary.
- Promoting learner to learner interaction in online groups to foster collaboration and promote skills such as analysis and evaluation.
- Using digital tools, such as course module mastery dashboards to identify patterns in learner engagement and performance will help inform improvements to achieve individual learner growth.
- Providing individualize instruction based on an individual’s goals, progress, and interests, such as allowing learners to choose from different options for completing an assignment and guiding students through content at different speeds/orders, based on their needs and interests.

B. Promising Instructional Design, Tools, and Professional Development

There is strong evidence that educational technology “modestly improves student achievements” when it is incorporated into traditional classroom learning, especially for K-12 classrooms.¹⁰³ The Department of Education’s (DOE) Office of Educational Technology has put out several reports and policy briefs on the importance of integrating technology into the classroom.

¹⁰¹ [Virtual Learning Leadership Alliance, National Standards for Quality Online Teaching, 2019](#)

¹⁰² Ibid.

¹⁰³ [County Health Rankings and Roadmaps, Technology-Enhanced Classroom Instruction, Accessed 6/13/22](#)

Virtual schools provide a unique opportunity to engage with technology on a deeper level as recommended by the DOE.¹⁰⁴ Some of these recommendations that can be implemented in virtual schools include:

- **Align efforts with research-based standards, frameworks, and credentials recognized across the field.** It is important to establish common language and expectations around the use of technology in schools through district- and field-wide competencies and frameworks. There are some industry wide standards such as the International Society for Technology in Education's Council for the Accreditation of Education Preparation (ISTE-CAEP) standards that can be used to base these frameworks around.
- **Focusing on the active use of technology to enable learning and teaching through creation, production, and problem solving.** The DOE gives examples of active use of technology in the classroom such as peer-to-peer collaboration, student produced published content such as blogs and videos, and real-time interaction with experts, which are all teaching practices often utilized in the virtual classroom. Other teaching practices involving the active use of technology used in virtual classrooms includes interactive trivia and learning games, real-time feedback through chat features, and interactive presentations that have students engage with material before moving on to the next slide.
- **Building sustainable and program-wide systems of professional learning for instructors to strengthen and continually refresh their knowledge of using technological tools in the classroom.** As technology develops and evolves at a rapid pace, there should be ongoing subject and district specific training available for teachers. Some ways to specify the training includes the utilization of student feedback in developing models and selection of trainings based on teaching practices and techniques that students identified as most effective.¹⁰⁵

The DOE also provides more specific recommendations for educational technology as it relates to instructional design, tools, and professional development.

Instructional Design. The delivery of content for online learning is vastly different compared to in-person learning. For successful online learning, it is important to design courses specifically for the online classroom setting. Some school districts develop their online resources internally, but the vast majority of school districts that offer online learning contract out the development of online courses, technology, and services from a continuum of suppliers, such as companies, governmental agencies, or nonprofits.

¹⁰⁴ [U.S. Department of Education, Advancing Educational Technology in Teacher Preparation: Policy Brief, 2016](#)

¹⁰⁵ [U.S. Department of Education, Advancing Educational Technology in Teacher Preparation: Policy Brief, 2016](#)

When designing online courses, teachers should look at the learning management system and course pages through the eyes of a student and their guardian - the way a student and their guardian interact with the course material, online tools, and the online classroom are important to how they are processing and learning new information.¹⁰⁶ Having an organized digital platform that contains all materials and course information is essential to creating an excellent user experience for students.¹⁰⁷ Further, it is recommended there is a consistent layout and design for each course page across the entire virtual school.¹⁰⁸

One of the recommended instructional designs is the Universal Design for Learning – a framework that emphasizes the need for learner agency and instructor responsiveness, in addition to the need for discipline-specific technologies, tools, and resources. The overarching idea is that teachers should consider designing courses that will work for all students.¹⁰⁹ This can be accomplished by promoting student choice, by offering multiple assignments and formats for course delivery and utilizing a variety of communication methods to reach students.¹¹⁰ Virtual schools are well suited to employing Universal Design for Learning as these schools tend to provide more individualized learning options and quicker and more consistent feedback.

Tools. The utilization of software and online tools for courses is critical to the success of online learning as well. Learning management systems, which is software for the administration, documentation, tracking, reporting, and delivery of educational courses, should be examined for its user experience and accessibility, as well as its ability to interact with other software.

Integrating technology into course content is another promising practice. It is recommended that whenever possible, teachers should provide opportunities for students to engage with different digital software and tools that support student’s mastery of content while they build new skills at the same time.¹¹¹ To contextualize, some digital tools and resources used by K-12 teachers interviewed by OLO and their capabilities are described below:

- **Pear Deck** – A Google Slides add-on that helps teachers create more engaging slides and support student interaction by adding interactive questions, the ability to show or hide student responses, and features that let teachers send personalized notes to individual students¹¹²

¹⁰⁶ [Education Week, Lessons from the Pandemic that can Improve Leading and Teaching, 2021](#)

¹⁰⁷ [Ibid.](#)

¹⁰⁸ [Virtual Learning Leadership Alliance, National Standards for Quality Online Teaching, 2019](#)

¹⁰⁹ [CAST, Universal Design Learning Guidelines, Accessed 6/13/22](#)

¹¹⁰ [Virtual Learning Leadership Alliance, National Standards for Quality Online Teaching, 2019](#)

¹¹¹ [Virtual Learning Leadership Alliance, National Standards for Quality Online Teaching, 2019](#)

¹¹² [Peardeck Homepage, 6/14/22](#)

- **Khan Academy** – A free to use high-quality resource that has courses for nearly all subjects and can help students enrich lessons and obtain mastery over learning concepts.¹¹³
- **Desmos** – An online platform for learning math concepts that uses multiple choice questions to provide instant feedback, and measures learning progress so students can learn at their own pace while experiencing instant satisfaction of getting answers correct.¹¹⁴
- **Explain Everything Digital Whiteboard** – A digital whiteboard app that has offline and online capabilities and can encourage collaboration between teachers and students as both parties can interact with it. It also has integration with popular learning management systems such as Canvas and Blackboard.¹¹⁵
- **Canva** – An online graphic and publishing tool that allows users to create professional-quality presentations, posters, infographics, videos, and more. There is a free and paid version available.¹¹⁶
- **Labster** – An online platform that allows students to participate in virtual science lab simulations, where they can practice lab skills and visualize theory in an interactive learning environment.¹¹⁷
- **Kami** – A digital tool that allows teachers to upload any learning resource, such as a presentation or worksheet. It lets students and teachers mark up and draw on materials in real time for all users to see and participate.¹¹⁸
- **Nearpod** – A Google Slides and PowerPoint presentation add-on that allows teachers to build polls, games, and collaborative leaderboards to keep students engaged in lessons.¹¹⁹

Professional Development. Professional development and trainings that are specifically tailored to the online classroom and school environment are essential. Stakeholder feedback and research points to the importance of having scheduled weekly opportunities for professional development. Teachers can greatly benefit from learning from each other as they work in the same environment with their peers particularly when there is an overlap in coursework.¹²⁰

¹¹³ [Khan Academy Homepage, Accessed 6/14/22](#)

¹¹⁴ [Desmos Homepage, Accessed 6/14/22](#)

¹¹⁵ [Explain Everything Homepage, Accessed 6/14/22](#)

¹¹⁶ [Canva Homepage, Accessed 6/14/22](#)

¹¹⁷ [Labster Homepage, Accessed 6/14/22](#)

¹¹⁸ [Kami Homepage, Accessed 6/14/22](#)

¹¹⁹ [Nearpod Homepage, Accessed 8/5/22](#)

¹²⁰ Stakeholder feedback, [Roy, M. and Boboc, M., Professional Development Needs of Online Teachers, 2016](#)

Online teaching requires different competencies and skill sets compared to teaching in a physical classroom.¹²¹ With the lack of rigorous evidence-based research on best practices for K-12 virtual schools, professional development is essential for teachers to share what works and what does not, and to build knowledge and skills specifically for the virtual classroom setting.

One professional development technique brought up in stakeholder interviews was the “Pineapple Chart” method.¹²² It is a system that allows teachers to invite one another into their classrooms for informal observation on a voluntary basis. Teachers can sign up on the “pineapple chart” for open classroom sessions and “advertise” activities, lessons, and other interesting topics they will be teaching in the classroom. Teachers can attend whichever session they find most interesting with no formal write-up or note taking required. It is especially easy to join a class session virtually without disrupting instruction. Overall, it is an informal way for teachers to engage in peer-based learning and to view teaching techniques and skills applied in real life classrooms.¹²³

C. Characteristics of Successful Online Students

The pandemic created an opportunity for many students to experience online learning for the first time and while some students struggled with the transition, others have thrived. There is no one single defining characteristic that denotes a successful online student, but there is some research and anecdotal feedback that points to characteristics of success. This section summarizes what experts have reported as student and environmental characteristics for successful online learning.

Student Characteristics. Research and anecdotal feedback have identified several characteristics of students who experience success with online learning:

- Some students with ADHD, chronic illnesses, immunocompromised, Autism, Asperger’s, and anxiety are more likely to thrive in online learning environments. The flexibility of options that online learning has lent to schools has allowed some students to thrive where they have not in traditional classrooms.¹²⁴
- Some students who have struggled with distractions in physical classrooms have found more success in online learning. Further, some students with social challenges, such as those embarrassed to engage in front of their peers, have found great success engaging in virtual classrooms.

¹²¹ [Bennett, S. and Lockyer, L., Becoming an Online Teaching: Adapting to a Change Environment for Teaching and Learning in Higher Education, 2004.](#) , [Jaffee, D., Virtual Transformation: Web-Based Technology and Pedagogical Change, 2003](#) , [Sieber, J., Misconceptions and Realities about Teaching Online, 2005](#)

¹²² Stakeholder feedback

¹²³ [Edutopia, Opening the Door to Professional Learning, 2021](#)

¹²⁴ [Washington Post, Remote Learning has been a Disaster for Many Students but Some Kids have Thrived, 2020](#)

- In general, students who are self-motivated, are independent learners, have computer literacy, and good time management have the required baseline skills to achieve success in online learning.¹²⁵
- Some students who benefit from the freedom to work at their own pace, being able to set their own schedule, and being able to control their learning environment to suit their needs, such as listening to music while working on assignments have found success in online learning.¹²⁶

Further, the virtual classroom can accommodate many different learning styles and one study found there were not significant differences in student performance due to learning styles.¹²⁷ This could be due in part to the ability for students to replay live lessons which can aid in the reinforcement of concepts as well as the multitude of course delivery options that virtual courses provide.¹²⁸

One study focusing on K-12 education sought to identify the characteristics of a successful online student through the use of a student success prediction instrument. It found that the characteristics and factors that appear to have the greatest effect on student success were:¹²⁹

- Hours involved in out-of-school activities;
- Study environment;
- Computer confidence;
- Achievement beliefs and prior academic success;
- Responsibility;
- Self-organization; and
- Technology skills belief and access.

It should be noted that online learning is not for everyone, but it can have great outcomes for students who do find more success in online learning compared to brick-and-mortar classrooms. Virtual education is at its best when it is presented as an option, not a requirement, and those who excel in the environment can opt into it.¹³⁰ Age may also be a factor - some experts argue that younger children, especially those in elementary school, do not have the capacity to learn in a meaningful way in a virtual setting. One reason for this is that younger children do not have the reading and comprehension skills necessary to navigate themselves in an online classroom let alone complete assignments.¹³¹

¹²⁵ [Cavanaugh, C. S., Barbour, M. K., and Clark T., Research and Practice in K-12 Online Learning: A Review of Open Access Literature, 2009](#)

¹²⁶ [Washington Post, Remote Learning has been a Disaster for Many Students but Some Kids have Thrived, 2020](#)

¹²⁷ [Sun, K., Lin, Y., and Yu, C., A Study on Learning Effect Among Different Learning Styles in a Web-Based Lab of Science for Elementary School Students, 2008](#)

¹²⁸ Stakeholder Feedback

¹²⁹ [Roblyer, M. D. and Marshall J. C., Predicting Success of Virtual High School Students, 2014](#)

¹³⁰ Stakeholder Feedback

¹³¹ Stakeholder Feedback

Some questions that parents and students can answer to determine if virtual school is a good fit for them can include¹³²:

- 1) Can the student maintain a study schedule and complete assignments with limited supervision or is there an adult at home who can monitor and assist in helping the student build independence?
- 2) Will the student be able to ask for help and effectively communicate with a teacher during class via telephone, text, email, or video?
- 3) Does the student have an intrinsic drive to learn skills, acquire knowledge, and complete assignments?
- 4) Does the student possess foundational reading, writing, math, and computer literacy skills or is there an adult at home who can provide support as needed while the student is learning these skills?

Learning Environment. Literature and several stakeholders stated that having support at home for online learning is essential for success in virtual school, especially for elementary and middle school students.¹³³ In general, students who have an engaged parent or guardian, who can help students log-in, navigate technological hiccups, and know how to find information stored in class links and assignments on the learning management system, are more likely to be successful in virtual schools. It is further suggested for the online learning coach to communicate regularly with their student's teacher in order to track progress and plan academic interventions as early as possible.

It is also important for virtual schools to have consistent formats for class pages on their learning management system, so parents and students can easily scan the page to see when assignments are due and track attendance and grades. For example, the Montgomery Virtual Academy developed and implemented a universal template for classroom landing pages on Canvas, so parents and students can easily navigate multiple classes.¹³⁴

Another key to student success is a good study environment at home where they can complete online work. In general, a good space is one in which it is fully dedicated to attending classes and completing work, has a surface large enough for necessary devices, a space for note taking if needed, is quiet and free of distractions, and has decent lighting for videoconferencing.¹³⁵

¹³² [Black, E., Ferdig, R., and Thompson, L. A., K-12 Virtual Schooling, COVID-19, and Student Success, 2020](#)

¹³³ Stakeholder Feedback, [Black, E., Ferdig, R., and Thompson, L. A., K-12 Virtual Schooling, COVID-19, and Student Success, 2020, Roblyer, M. D. and Davis, L., Predicting Success for Virtual School Students: Putting Research-based Models into Practice, 2008](#)

¹³⁴ Stakeholder Feedback

¹³⁵ [Khan Academy, Seven Tips for Setting Up a Productive Learning Space at Home, Accessed 5/27/22](#)

One essential component of a good learning environment includes technology such as a home computer that is only utilized by the student.¹³⁶ Factors that go into creating a good learning environment, include a strong internet connection, and up-to-date devices and accessories that allow for better immersion and ease of access for online learning. Technology that aids in the success of online learning includes:

- Computers and/or laptops that can handle multiple applications running at once. Many districts, MCPS included, provides students with Chromebooks for online learning.¹³⁷ However, a few jurisdictions that OLO spoke with report that Chromebooks are not powerful enough to smoothly run necessary programs for some of their courses.¹³⁸
- Multiple screens have been shown to increase efficiency and effectiveness of schoolwork and attending online classes. Multiple screens enable students to have a synchronous lecture be full screen while they take notes or work out problems on another screen.
- A strong internet connection is essential for having the best user experience when attending live classroom sessions and engaging in collaborative work with other students using cloud computing programs like Google Docs.

¹³⁶ [Roblyer, M. D. and Davis, L., Predicting Success for Virtual School Students: Putting Research-based Models into Practice, 2008](#)

¹³⁷ A survey conducted by MCPS reports high satisfaction with the performance of the Chromebooks. For cases where the Chromebooks do not support the software needed, MCPS has the ability to set up windows virtual servers where staff and students are able to log in and access any software needed.

¹³⁸ Ibid.

Chapter 5. Jurisdiction Case Studies

This chapter presents ten case studies for districts continuing full-time virtual education for the 2022-2023 school year.¹³⁹ OLO selected case studies of only virtual programs which were run and managed by school districts because the standards of those programs align with their in-person counterparts. Because for-profit virtual schools are exempt from many of the requirements imposed by state and local boards of education regarding hiring and curriculum, they were not included. OLO selected the case studies based on the following criteria:

- Districts which have established fully virtual online education options and plan to continue them after the pandemic ends;
- Virtual programs that have fully developed websites with enough information to compare characteristics across other schools in the study;
- Virtual schools with unique attributes and design (i.e., career pathways, computer science focus, longevity of program, etc.); or
- Districts in similar size and/or demographics to MCPS.

OLO reached out to ten school districts and of these, three responded and agreed to an informational interview: Frederick County Blended Virtual Program (MD), Low Country Virtual Program (SC), and Madison Promise Online Program (WI). The remaining case studies are summarized from online information available.

Below is a table of Montgomery County Public School's demographics and size, to be compared against other districts presented.¹⁴⁰ As there is not data available on the enrollment characteristics of all virtual programs investigated, data from the entire school districts are used.

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation ¹⁴¹
158,232	209	74.7%	39.8%

¹³⁹ Supplemental information for each virtual school program can be found in Appendix B.

¹⁴⁰ [Montgomery County Public Schools, At a Glance, Accessed 5/27/22](#)

¹⁴¹ Free and Reduced Meals Systems (FARMS) data are used as a proxy for estimating the amount of economically disadvantaged students in a school or school district.

Overall Observations. After examining all ten districts, commonalities appeared which includes:

- Almost all districts reported having students physically report to a school for standardized assessments.
- All teachers for virtual programs are either district teachers and/or certified by the state in which the district is located.
- All districts (except for Fulton County Schools) utilize a home school system for their virtual programs, where students are still enrolled in a district school and/or matched to a school where they can receive services, participate in extracurriculars, etc.
- All virtual programs mention on their site the importance of having a learning coach, which is a guardian who is actively engaged in supporting their student's daily online learning experience.
- All virtual programs support IEPs and 504s, although some report it's on a case-by-case basis.

Additionally, OLO found that:

- Six out of ten virtual programs explicitly state they offer meal services for students. Three programs did not have information regarding meals and one program did not have meal services but was investigating how to provide these services.
- Six out of ten virtual programs ask for enrolled students to commit for the entire school year.
- Two out of ten virtual programs existed prior to the pandemic, which are Bloomington New Code Academy and the Nevada Learning Academy.
- Canvas is the most common learning management system used by the districts. Five districts use Canvas, three use Schoology, two use Edgenuity¹⁴², and one uses Assist.
- Funding structures of the schools differ and at least two programs are funded by federal funds.¹⁴³ The two programs that existed prior to the pandemic are fully funded by their operating budget.

¹⁴² Charlotte-Mecklenburg Virtual Schools utilize both Canvas and Edgenuity, which accounts for the total 11 learning management systems used.

¹⁴³ Frederick County used American Rescue Plan Elementary and Secondary School Emergency Relief funds for their 2021 – 2022 school year, Madison Promise used ESSA

The following case studies are presented in alphabetical order.

Case Study	Page #
Bloomington New Code Academy	42
Charlotte-Mecklenburg Virtual Schools	43
The Eastern Shore of Maryland Educational Consortium Blended Virtual Program	44
Frederick County Blended Virtual Program	45
Fulton County Virtual School	46
Los Angeles Unified Virtual Academy	47
Low Country Virtual Program	48
Madison Promise Online Program	49
Nevada Learning Academy at CCSD	50
Tacoma Online	51

Case Study #1: Bloomington New Code Academy (MN)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
9,805	18	54%	36%

Source: <https://www.bloomington.k12.mn.us/sites/default/files/2021-11/enrollment-report-2021.pdf>

Overview. Founded in 2017, the New Code Academy is an online K-12 school with a computer science focus. All teachers are from Bloomington Public Schools and on average, there are about 30 students per course, which mirrors class sizes in face-to-face courses. The curriculum adheres to academic standards and policies of the Bloomington School District.

Teaching Methods. The New Code Academy intentionally designs their courses to balance on screen time with off screen time. Elementary students spend about 3.5 to 5 hours synchronously online as they need more guidance with their learning. Middle and high school students spend about 2-4 hours synchronously online. Most of the screen time is active, which means students are creating, communicating, and/or collaborating with their classmates.

Unique Attributes. All K-12 students are engaged in a computer science focused approach to general education. The Academy also works on building skills like time management, goal setting and monitoring, attention to detail, and making choices for their personal learning. The New Code Academy also has “Wonderful Wednesdays” which does not have mandatory synchronous lessons. Instead, students can continue learning at their own pace, catch up on assignments if needed, and extend learning in different ways. Teachers use the time to collaborate with each other, develop fully online content, and organize hands-on material pick up days for families.

Other Online Options. The Bloomington Public Schools District allows students who are enrolled in their brick-and-mortar schools to take courses offered through New Code Academy part-time.¹⁴⁴

¹⁴⁴ [New Code Academy Home Page](#), Accessed 6/2/22

Case Study #2: Charlotte-Mecklenburg Virtual Schools (NC)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
140,406	180	75.2%	41%

Source: <https://www.cms.k12.nc.us/communications/aboutus/Pages/CMS-Fast-Facts.aspx>

Overview. The Charlotte-Mecklenburg Virtual School (CMVS) is a fully online magnet program for K-12 students. All programs provide access to rigorous coursework and use curriculum that align with state and national academic standards. The elementary and middle school programs are taught by Charlotte-Mecklenburg district teachers and the high school program is taught by district teachers, North Carolina Virtual Public School (NCVPS) teachers, and Edgenuity teachers.¹⁴⁵

Teaching Methods. The elementary and middle virtual schools offer a blend of synchronous and asynchronous independent work, which differs by grade level. For elementary school students, the first half of the school day is mostly synchronous, and the afternoon session is mostly asynchronous. For the high school virtual program, students can attend their daily synchronous lessons online at home or online at the brick-and-mortar location, which provides students with access to technology, counselors, and teachers. Further, all virtual school teachers participate in professional development that is aligned with the student's needs and school community.

Unique Attributes. The high school curriculum is made up of three content providers to provide instruction to students. Due to staffing limitations, there are courses taught by CMVS teachers, NCVPS teachers, and Edgenuity teachers. The courses staffed by CMVS and NCVPS teachers use Canvas and the Edgenuity courses use their own system. The program focuses on individualized instruction with an emphasis on promoting the social and emotional well-being of the students.

Other Online Options. Charlotte-Mecklenburg schools offers high school students the opportunity to recovery credits and complete course requirements virtually. There are also opportunities to take online classes through the University of North Carolina's iSchool and the district's magnet schools.¹⁴⁶

¹⁴⁵ [Charlotte-Mecklenburg Schools, Blended and Virtual Programs, Accessed 6/2/22](#)

¹⁴⁶ Ibid.

Case Study #3: The Eastern Shore of Maryland Educational Consortium Blended Virtual Program (MD)

# of Students*	# of Schools*	% Minority Enrollment^	% FARMS Participation^
62,547	131	44%	55.47%

Source: <https://reportcard.msde.maryland.gov/>

* Total count across the nine participating districts in the Eastern Shore Virtual Program

^ Average across the nine participating districts in the Eastern Shore Virtual Program

Overview. The Eastern Shore of Maryland Educational Consortium Blended¹⁴⁷ Virtual Program is a fully online school that serves grades 6-12. Nine districts¹⁴⁸ participate in this program and teachers are from these districts and Maryland certified teachers. The curriculum was purchased from Apex Learning and is aligned with Maryland State Standards to ensure the same quality of education that students receive in person.

Teaching Methods. At minimum, about 40% of instructional time per course is synchronous, which works out to about three hours per day for students with a full course schedule. Students should expect to spend the length of a normal school day (6-7 hours) completing assignments asynchronously. The program is designed to be rigorous and self-paced.

Unique Attributes. Every day, students attend an advisory session with a student success coordinator before instruction starts. This time is used for social-emotional learning, discussion of needed supports, and anything else related to a student's academic journey. These student success coordinators act as advocates for students and can connect them to needed services. Also, virtual tutoring is available on-demand from 8 AM to 8 PM Monday through Friday for all students.

Other Online Options. The Eastern Shore of Maryland Educational Consortium does not offer other online options at this time. However, the nine school districts that participate may offer other online options, such as part-time online courses.

¹⁴⁷ While blended learning generally refers to a mix of online and in-person instruction, this program is fully online.

¹⁴⁸ The nine Counties are Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester.

Case Study #4: Frederick County Blended Virtual Program (MD)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
45,700	68	48%	29%

Source: <https://www.fcps.org/about/fast-facts>

Overview. The Frederick County Blended¹⁴⁹ Virtual Program is a fully online virtual school that serves K-12 students and staffed by Frederick County Public Schools (FCPS) teachers. It has separate principals for elementary, middle, and high school levels.

Teaching Methods. Live classes occur daily, Monday through Friday and schedules are aligned to FCPS traditional school schedules.¹⁵⁰ Generally, school days are from 7:55 AM to 3:00 PM and on an A/B scheduled day. Overall, there is more synchronous learning compared to asynchronous learning. Further, the Blended Virtual Program outlines expectations for parent learning coaches, which includes building a schedule for their student's day, checking progress, creating a designated space for learning, and ensuring students are attending classes. It is noted that an engaged parent learning coach is especially needed for grades K-3.

Unique Attributes. The Blended Virtual Middle School Program features "Wednesday Power Blocks" to help lessen screentime and increase opportunities for extra support as needed. The Power Blocks run from 1:00 PM to 3:00 PM on Wednesdays and teachers use this time for tutoring, extensions, and office hours. FCPS also offers 24/7 online 1:1 tutoring support through TutorMe.¹⁵¹ Further, there are plans to implement cognitive load theory¹⁵² into the middle school program, such as designing instructional systems that optimize the use of the working memory capacity of an average middle schooler, in order to avoid cognitive overload in courses.¹⁵³

Other Online Options. Frederick County Virtual School has existed for over 10 years and started by offering evening virtual classes for high school students struggling to meet graduation requirements. Now, there are multiple programs offered such as a la carte virtual classes, both offered in and out of school hours, online flexible high school, online courses for credit recovery offered during school hours, and virtual summer school.¹⁵⁴

¹⁴⁹ While blended learning generally refers to a mix of online and in-person instruction, this program is fully online.

¹⁵⁰ Stakeholder Feedback

¹⁵¹ [FCPS Middle School Blended Virtual Program, 2021-2022](#)

¹⁵² The basic idea of cognitive load theory is that working memory, the conscious process of thinking, has a limited capacity and if a learning task requires too much capacity, overall learning effectiveness will be decreased.

¹⁵³ Stakeholder Feedback

¹⁵⁴ [Frederick County Virtual Schools, Homepage, Accessed 6/2/22](#)

Case Study #5: Fulton County Virtual School (GA)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
94,400	108	73%	41%

Source: <https://www.fultonschools.org/aboutus>

Overview. The Fulton County Virtual School is a fully online school that serves grades 3-11 and instruction is given by Fulton County teachers. It is a stand-alone school and does not operate on the “home school” system like many district-run virtual schools. It is fully staffed with administrative and teaching staff that only work at Fulton County Virtual School. The Virtual School also offers its own extracurricular activities.

Teaching Methods. The amount of synchronous to asynchronous learning time varies by grade level. For elementary students, daily live instruction is provided and required. For middle and high school students, there are opportunities for daily live instruction, but they are not required to attend synchronously. The program focuses on digital lessons, which are self-paced and include videos and interactive tools for practice questions. Assignments are given that demonstrate mastery of standards.

Unique Attributes. A guardian or parent must agree to serve as a learning coach for their student(s). They are required to do daily check-ins with their student(s) and teacher(s), verify work completion, track grades, and help student(s) respond to teacher feedback. For the elementary and middle school level, learning coaches are required to be with students during school hours. Further, the program has students engage in discussion-based assessments. After a lesson is completed in a module, students will have a short phone conversation with their teacher and answer questions about information learned from the module.

Other Online Options. The Fulton County School District also offers Fulton Virtual, which is a part-time supplemental program in which students take one to three courses online. It is self-directed and does not include consistent live instruction. The district also allows students to take online classes while attending traditional school and sponsors students to take classes through the Georgia Virtual School, which is a statewide online schooling program through the Georgia Department of Education’s Office of Technology Services.¹⁵⁵

¹⁵⁵ [Fulton Academy of Virtual Excellence, Homepage, Accessed 6/4/22](#)

Case Study #6: Los Angeles Unified Virtual Academy (CA)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
574,570	1,424	89.5%	80%

Source: <https://achieve.lausd.net/domain/32>

Overview. The Los Angeles Unified Virtual Academy offers K-12 students a fully online learning experience. It is taught by Los Angeles Unified School District teachers and is divided into elementary, middle, and high school programs which are all fully staffed with administrative and teaching staff.

Teaching Methods. There is more of an emphasis on asynchronous learning in this program. Students can be expected to spend 20-30 hours on independent and asynchronous work and attend up to three hours of synchronous learning a day. For elementary students, each student gets an individual teacher that provides support for all subjects. At the middle and high school level, students are assigned to personalized learning teams of teachers that form a system of support and work closely with small groups of students in each subject area. The virtual academy also provides tutoring and weekly check-ins with a student's supervising teacher.

Unique Attributes. The Virtual Academy has six different "themes" that all students can choose from, which offers students substantive exposure to career opportunities through theme-based clubs, extracurricular activities, virtual field trips, guest speakers, and collaborative theme-based projects appropriate to age levels. The six themes are STEAM, STEAM leadership and public service, STEAM business and entrepreneurship, international studies and world languages, arts and entertainment, and computer science. The Academy also offers a program for Black students that address the need for culturally responsive curriculum and instruction and provides increased staffing support for the academic and social-emotional needs of Black students.¹⁵⁶

Other Online Options. The Los Angeles Unified City of Angels School has an online independent study program where students receive daily live online instruction for part of the day and complete weekly independent work asynchronously.¹⁵⁷ The district also offers online credit-bearing courses through Apex Learning and Edgenuity that students can take on their own time.¹⁵⁸

¹⁵⁶ [Los Angeles Unified School District Virtual Academy Flyer, Accessed 6/2/22](#)

¹⁵⁷ [Los Angeles Unified School District Online Learning, Accessed 6/2/22](#)

¹⁵⁸ [Los Angeles Unified School District Online Courses Overview, Accessed 6/2/22](#)

Case Study #7: Low Country Virtual Program (SC)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
140,633*	205*	32.3%^	27.4%^

Source: <https://nces.ed.gov/ccd/districtsearch/index.asp>

* Total count across the eight participating districts in the Low Country Virtual Program

^ Average across the eight participating districts in the Low Country Virtual Program

Overview. Low Country Virtual Program is a new program offered by eight participating school districts¹⁵⁹ in the Low Country region of South Carolina.¹⁶⁰ It serves grades K-8 and is staffed by teachers from the eight districts, with a preference for hiring teachers with a background in digital pedagogy and experience in online teaching.¹⁶¹ The curriculum used is leased from the Florida Virtual School and Low Country Virtual worked with them to align the curriculum to state standards.¹⁶²

Teaching Methods. For kindergarten, two hours in the morning are devoted to a daily homeroom session which covers SEL and then live instruction. The afternoon session consists of two hours of asynchronous work with 1:1 tutoring time if needed. For grades 1-8, a typical school day runs from 8:00 AM to 3:30 PM and begins with a daily homeroom session. There are generally four live classes, Monday to Thursday, with time set aside between live sessions to have independent work, small group work, or 1:1 tutoring.

Unique Attributes. The school uses the National Standards for Quality for Online Learning as the foundation of its program. It also has Flex Friday, which is designed for students to work independently, engage in small group instruction, attend virtual field trips, and participate in clubs based upon their interests. Further, the program puts special focus on professional development for teachers. It uses the “Pineapple Chart” system which allows teachers to invite one another into their virtual classrooms for informal observation so they can learn from each other and see teaching skills and techniques utilized in the classroom.¹⁶³

Other Online Options. Currently, the Low Country Virtual Program does not offer part-time enrollment. However, the other eight districts offer their students online learning options.

¹⁵⁹ The eight school districts are Beaufort, Berkeley, Charleston, Colleton, Dorchester 2, Dorchester 4, Florence 2, and Greenwood 52.

¹⁶⁰ [Low Country Virtual Homepage](#), Accessed 6/5/22

¹⁶¹ Stakeholder Feedback

¹⁶² [Low Country Virtual Program Design](#), Accessed 6/5/22

¹⁶³ [Edutopia, Opening the Door to Professional Learning, 2021](#)

Case Study #8: Madison Promise Online Program (WI)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
27,000	52	57%	35.8%

Source: <https://www.madison.k12.wi.us/about>

Overview. The Madison Promise Online Program is a full-time virtual school offered through the Madison School District and currently serves grades 4-10, with plans for expanding to grades 11 and 12. It is staffed by teachers from the Madison School District and is funded through Every Student Succeeds Act (ESSA) funds and district funds.

Teaching Methods. Instructional time varies on grade level but generally, each class meets twice a week and teaching blocks are no more than 30 minutes. Teaching blocks are direct instruction delivered by teachers and each class has 30 minutes of teaching blocks and 30 minutes of independent work and homework. Each teacher also schedules 10 office hours a week, where students can drop by and receive extra academic help and other needed supports.

Unique Attributes. The program is built on five key principles which are: strong student engagement, teachers who excel at building strong relationships, quality training and professional development for teachers, flexibility, and student's school of choice. The Madison Promise Online Program believes in literacy learning, which is why the earliest grade it serves is 4th grade. Program leaders do not believe K-3 students have the literacy skills, digital and general, that is necessary to meaningfully engage and keep up with online learning.¹⁶⁴ Further, students must submit letters of recommendation as part of the application process.¹⁶⁵

Other Online Options. The Madison Metropolitan School District also has the Madison Virtual Campus which offers a la cart online courses through the program. Usually, students use this program to fit a specific course in their schedule or for credit recovery. The district also offers Edgenuity online programs for credit recovery, innovative and alternative education programs, and individualized education programs.¹⁶⁶

¹⁶⁴ Stakeholder Feedback

¹⁶⁵ [Madison Promise Home Page, Accessed 6/5/22](#)

¹⁶⁶ [Madison Metropolitan School District Supplementary Online Learning, Accessed 6/5/22](#)

Case Study #9: Nevada Learning Academy at CCSD (NV)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
305,000	360	76%	65%

Source: <http://openbook.ccsd.net/>

Overview. The Nevada Learning Academy was established in the early 2000s and is a stand-alone virtual school within the Clark County School District. It serves K-12 students, its curriculum is aligned with Nevada Academic Content Standards, and teachers are state certified and trained specifically for online teaching. It has its own dedicated campus where students can take virtual classes.¹⁶⁷

Teaching Methods. The Academy follows the traditional semester calendar and students can attend class from home or at the Nevada Learning Academy campus. There are weekly scheduled live sessions to enhance student learning where students receive support for content area instruction, study skills, successful online learning strategies, and project-based learning activities. Outside these live sessions, courses are conducted asynchronously so students can work on courses any time of the day. Students should expect to spend 1 to 2 hours per day per class on completing coursework.

Unique Attributes. The Nevada Learning Academy develops an individualized academic education plan for all full-time students, that is tailored to meet their unique needs. Learning style and interests are considered in this plan. The Academy also offers different career pathways such as health science, IT, and business. There is a physical campus that has a dedicated student friendly workplace, a computer lab for testing and instruction, a science lab, tutoring rooms, and club rooms. Further, the Academy created a self-assessment survey for interested students to take to determine if online learning is a good fit.

Other Online Options. The Clark County School District began offering distance education opportunities to its students in 1991 through video courses. In 2002, high school students were able to take online courses for credit recovery. High school students can also enroll part-time at the Nevada Learning Academy to take online courses, in addition to attending a brick-and-mortar school.

¹⁶⁷ [Nevada Learning Academy, Home Page, Accessed 6/4/22](#)

Case Study #10: Tacoma Online (WA)

# of Students	# of Schools	% Minority Enrollment	% FARMS Participation
28,649	67	65%	62%

Source: <https://www.tacomaschools.org/about/district-information/data>

Overview. Tacoma Online Schools is a fully virtual program which began in Fall 2021 that serves K-12 students. Instruction is delivered by Tacoma district teachers and its curriculum is aligned with Tacoma district and state standards.

Teaching Methods. Schedules are personalized, so students can complete coursework independently at any time. These schedules are collaboratively set with the support of their online teacher. Live lessons are offered but are also recorded so students can watch at any time. While schedules are flexible based on a student's needs, there will be prescribed timelines for progress that must be met. Daily opportunities are scheduled for students to meet with teachers for academic assistance.

Unique Attributes. The program places heavy emphasis on personalized learning experiences that align to each student's own growth. To aid this growth, each student has their own support and advisory team, called PACE which refers to the program's pillars: personalized, accelerated connected, empowered. The team is made up of a counselor, teacher, and a guardian serving as a learning coach. The team meets on a daily basis, which is not required but is heavily recommended for students to attend. Further, daily attendance for classes is not required for students as the individual learning plan replaces the need for traditional attendance.¹⁶⁸

Other Online Options. Students can enroll part-time at Tacoma Online and take courses while still attending their physical school.¹⁶⁹

¹⁶⁸ [Tacoma Online, Frequently Asked Questions, Accessed 6/5/22](#)

¹⁶⁹ Ibid.

Chapter 6. Findings and Discussion

Virtual education can be an additional way to deliver high-quality instruction and curriculum for students. The number of virtual school options has grown throughout the country – during the 2019-2020 school year, there were 477 full-time virtual schools operating, which enrolled 332,379 students.

After the 2020 pandemic, many Montgomery County families decided to enroll their students in the Montgomery County Virtual Academy as an alternative to brick-and-mortar schools for a variety of reasons. This Office of Legislative Oversight (OLO) report responds to the Council’s request for information on virtual education, the advantages and disadvantages, promising practices, and information on other jurisdictions’ implementation of virtual learning after the pandemic. This chapter summarizes OLO’s findings and presents discussion questions for Council consideration on virtual education in Montgomery County Public Schools.

Findings

Finding #1: K-12 virtual schools can be a great option for some students, offering individualized learning, increased communication, and access to resources. However, the most significant disadvantage for virtual learning is a lack of socialization for students.

While virtual school may not be a good fit for all students, there are some concrete benefits of virtual schools and online classes which include:

- Increased enrollment;
- Broader educational opportunities for those who cannot attend traditional schools;
- Access to resources and instructors that are not locally available otherwise;
- Increases in student-teacher communication; and
- Some students enrolled in online learning showed greater improvement in critical thinking, researching, digital literacy, problem solving, decision-making, and time management.

Further, research shows that some students with special healthcare needs, such as asthma, attention deficit disorder, chronic illness, physical disabilities, depression, and anxiety, can benefit greatly from virtual education.¹⁷⁰ Some of these students, especially those with physical

¹⁷⁰ <https://www.jstor.org/stable/jeductechsoci.19.1.67>

disabilities and lowered immune systems, cannot attend school physically so virtual schools allow them to keep up academically with peers.¹⁷¹

However, both research and stakeholders confirm that it can be difficult to create opportunities for students to socialize in virtual schools. This can lead to a lack of a sense of community for virtual school students. While many virtual school students have access to the same after-school activities through their home school, often times there is no school-provided transportation to get to these activities which can make it difficult for some students to participate.

Finding #2: Research on the academic performance and effectiveness of K-12 virtual schools is inconclusive.

There are conflicting conclusions drawn by studies on the learning outcomes of virtual schools compared to brick-and-mortar schools. Some studies report no significant difference in the learning outcomes of K-12 students enrolled in virtual school full-time compared to those in brick-and-mortar schools. Others find that in general, virtual school performance lags significantly behind brick-and-mortar schools.

One consideration for the conflicting conclusions is some studies do not separate out for-profit virtual schools from not-for-profit virtual schools, which includes district-run schools. For-profit virtual schools are generally not beholden to state and local board of education standards and therefore, the quality of education can vary. However, all school district-run virtual schools are held to the same standards as the brick-and-mortar schools in their district. Overall, research shows that given instruction of equal quality, groups of students learning online generally achieve at levels equal to their peers in brick-and-mortar schools.¹⁷²

Finding #3: School districts have found unique approaches to developing and instituting full-time virtual education options.

There is a variety of approaches that school districts have utilized in developing their full-time virtual education, from the amount of asynchronous and synchronous courses offered to partnering with other districts to pool resources and services. Some examples include:

- Two virtual school programs (Low Country Virtual and Eastern Shore Virtual) are a partnership of multiple school districts in surrounding counties that pooled their resources together, including teachers and funding.
- Some virtual schools (Los Angeles United Virtual Academy and Nevada Learning Academy) offer their students substantive exposure to career opportunities through career-based courses, clubs, extracurricular activities, virtual field trips, guest speakers, and collaborative projects.

¹⁷¹ Ibid.

¹⁷² [Learning Point Associates, The Effects of Distance Education on K-12 Student Outcomes: A Meta-Analysis](#)

- One program (Tacoma Online) has an entirely flexible schedule, with all live lessons recorded and students are not required to attend live.

Finding #4: All virtual school programs included in the case studies stressed the importance of having an engaged parent or guardian for student success.

Studies and anecdotal evidence suggest that it can be difficult for students to perform strongly in a virtual setting without a dedicated parent or guardian supporting their academic journey. For younger students, it is strongly recommended and, in some cases, required by programs, that guardians are always available when their student(s) is attending virtual school. For all ten virtual school programs included in the case studies summarized in this report, all stated on their website the importance of having a learning coach, which is a guardian who is actively engaged in supporting their student's online learning experience daily.

Finding #5: Equitable access to full-time K-12 virtual schools in the United States may be limited.

Public schools have an obligation to provide access to full education for all students, which includes school-district run virtual schools. However, equitable access can be difficult for some students, particularly those with limited access to technology or those with disabilities:

- Compiled demographic data from the 477 virtual schools that existed in 2019 found that virtual schools enroll fewer minority students, substantially fewer low-income students, and relatively few English language learners (ELLs) compared to national public-school enrollment.
- Special education data is available for relatively few virtual schools, and the data that is available shows that in virtual schools, enrolled special education students is about half the national average for all special education students. Some virtual schools consider IEPs and 504s on a case-by-case basis and state they may not be able to accommodate certain special-needs students.

Recommended Discussion

OLO received feedback from interviews about opportunities for the expansion of virtual education in Montgomery County. The Councilmembers may want to consider the following in their discussion of County virtual schools and other online learning opportunities with MCPS.

Overall, offering virtual education options allow students who excel in the virtual classroom to continue their success. The Council could discuss with agency representatives the following options for expansion:

- Partnering with neighboring districts to increase pool of resources and potentially offer more courses and programs for students;
- Determining ways to increase opportunities for socialization and building community for students in the Virtual Academy;
- Attracting more teachers with strong skills in online teaching and providing more professional development opportunities specifically for Virtual Academy educators; and
- Offering part-time courses through the Virtual Academy for students attending brick-and-mortar schools.¹⁷³

The Council could also discuss with MCPS adding dedicated physical spaces for students enrolled in the Virtual Academy. Some virtual academies, like Nevada Learning Academy, have a dedicated campus for students to access tutoring, standardized testing, and form a sense of community by attending clubs and socializing in student lounges. Some stakeholders expressed an interest in having a physical space for Virtual Academy students to access tutoring, technical help, and allowing for face-to-face socialization opportunities for students. The Council could discuss with agency representatives, the possibility of implementing this in the Virtual Academy.

¹⁷³ OLO notes that there is already an option for MCPS students to participate part time in digital learning through other programs.

Chapter 7. Agency Comments

The Office of Legislative Oversight (OLO) shared final drafts of this report with staff from Montgomery County Public Schools (MCPS). OLO appreciates the time taken by MCPS staff to review the draft report and provide technical feedback. This final report incorporates technical corrections and feedback received from agency staffs.

The written comments received from the Montgomery County Chief Administrative Officer are attached in their entirety on the following pages.

MONTGOMERY COUNTY PUBLIC SCHOOLS

Expanding Opportunity and Unleashing Potential

OFFICE OF THE SUPERINTENDENT OF SCHOOLS

August 8, 2022

Chris Cihlar, Ph.D., Director
Office of Legislative Oversight
Stella B. Werner Council Office Building
100 Maryland Avenue, 4th Floor
Rockville, Maryland 20850

RE: Draft Report K-12 Virtual Education:
Promising Practices

Dear Mr. Cihlar:

Thank you for the opportunity to comment on the Office of Legislative Oversight's (OLO) Draft Report: K-12 Virtual Education: Promising Practices. Montgomery County Public Schools (MCPS) is committed to providing high quality instruction and educational experiences for students who may need and benefit from a virtual educational program. The draft report included the following opportunities for discussion and expansion:

Opportunity #1: Partnering with neighboring districts to increase the pool of resources and potentially offer more courses and programs for students.

MCPS Response: Expanding access to a wide variety of courses within and beyond the school day is a shared interest. MCPS currently partners with other districts as well as the Maryland State Department of Education to offer professional learning opportunities, access to select approved courses, and to collaborate on course design and creation.

Opportunity #2: Determining ways to increase opportunities for socialization and building community for students in the Virtual Academy.

MCPS Response: MCPS agrees with this need. During the 2021–2022 school year, the Montgomery Virtual Academy (MVA) established a Parent, Teacher, Student Association that partnered with academy leaders and staff to plan and implement a series of social and community building events. Staff, students, and parents met at parks, soccer fields, and the MVA location at 15 West Gude in Rockville for informal gatherings, and recreation. In addition, structures were added to the virtual space before, during, and after the school day in order to create community in an online environment. Open Mic forums, informal virtual lunch bunches, student showcases, and student-generated clubs were added throughout the school year. We recognize that additional structures and opportunities can be explored and look forward to this important discussion.

Opportunity #3: Attracting more teachers with strong skills in online teaching and providing more professional development opportunities specifically for virtual academy educators.

MCPS Response: In response to the growing need to recruit teachers and staff with diverse backgrounds, experiences, and perspectives, as well as to address the growing staffing shortages, MCPS, in collaboration with association leaders, opened hiring opportunities to states beyond the immediate area for staff working in the MVA. Implications, including employee benefit logistics, duty day hours, and onsite expectations are topics to consider and plan for as we continue to expand this practice. Because MCPS implements a blended approach to virtual instruction, professional learning for staff on teaching, communicating, collaborating, and assessing student learning is critical to success. Professional development was provided to staff as part of their ongoing professional growth plans and regular meetings throughout the year. Continuous professional learning is essential and we look forward to this discussion.

Opportunity #4: Offering part-time courses through the Virtual Academy for students attending brick-and-mortar schools.

MCPS Response: At the April 7, 2022, MCPS Board of Education meeting, expanding access to courses within and beyond the school day was discussed as a future enhancement to the MCPS online learning experience. Within the MVA, additional courses have been added for the 2022–2023 school year, including computer programming, computer science, additional Advanced Placement courses, and interest-based courses within the social sciences. In addition, through the Student Online Learning Pathways Program, access to individual courses during the summer and outside of the school day was expanded to include more courses and to accommodate more students. This summer, more than 6,000 MCPS high school students enrolled in and completed individual courses through this program. MCPS looks forward to continuing the expansion of this program and discussing this with the County Council.

Opportunity #5: Adding dedicated physical spaces for students enrolled in the Virtual Academy.

MCPS Response: The MVA has a dedicated space located at 15 West Gude Drive in Rockville. MVA offices, phones, supplies, meeting spaces, and resources are housed here. Parents, students, and staff come to collect supplies, obtain one-on-one support with technology, complete and submit forms, and meet with administrators, special education staff, and counselors. This also is the physical location for onsite testing and assessments required to be completed in person and through the MVA. As budget and space permits, MCPS will consider future space opportunities where students can complete course work and access resources as needed.

We look forward to discussing these opportunities at a future Council session.

Sincerely,



Monifa B. McKnight, Ed.D.
Superintendent of Schools

Copy to:

Dr. Murphy
Dr. Pugh
Ms. Reuben

Appendix A. Montgomery Virtual Academy Schedules

Elementary School Daily Schedule

Login	8:50 AM
Instruction Starts	9:00 AM
Lunch/Wellness	11:35 AM – 12:35 PM
Dismissal	3:25 PM

Middle School Daily Schedule

Time	"A" Day	"B" Day
8:15 AM – 9:30 AM	Period 1 (75 min alternating days)	Period 2 (75 min alternating days)
9:35 AM – 10:15 AM	Period 3 (40 min every day)	Period 3 (40 min every day)
10:20 AM – 11:35 AM	Period 4 (75 min alternating days)	Period 5 (75 min alternating days)
11:35 AM – 12:35 AM	Lunch/Wellness	Lunch/Wellness
12:35 AM – 1:00 PM	Period 0 Advisory/Homeroom	Period 0 Advisory/Homeroom
1:00 PM – 2:15 PM	Period 6 (75 min alternating days)	Period 7 (75 min alternating days)
2:20 PM – 3:00 PM	Student Support	Student Support

High School Daily Schedule

Time	“A” Day	“B” Day
7:30 AM – 8:10 AM	Period 1 (40 min every day)	Period 1 (40 min every day)
8:15 AM – 9:30 AM	Period 2 (75 min alternating days)	Period 3 (75 min alternating days)
9:35 AM – 10:15 AM	Period 4 (40 min every day)	Period 4 (40 min every day)
10:20 AM – 11:35 AM	Period 5 (75 min alternating days)	Period 6 (75 min alternating days)
11:35 AM – 12:35 PM	Lunch/Wellness	Lunch/Wellness
12:35 PM – 1:00 PM	Period 0 Advisory/Homeroom	Period 0 Advisory/Homeroom
1:00 PM – 2:15 PM	Period 7 (75 min alternating days)	Period 8 (75 min alternating days)

Appendix B. Supplemental Information on Case Studies

Case Study Data Points

- | | | |
|-----------------------------------------|-----------------------------------------------------------|------------------------|
| • School District size/demographics | • Any best practices their school specifies | • Meals included? |
| • Learning Management System (LMS) used | • If IEPs/504s are accepted | • Sports allowed? |
| • What grades are served | • If students are allowed to enroll/disenroll at any time | • Home school system? |
| • Teacher Credentials | • Devices/hotspots included? | • Unique Attributes |
| • Instructional Description | | • Funding |
| | | • Other online options |

1. Bloomington Virtual Schools – New Code Academy (MN)

Students enrolled – 9,805

% Minority students – 54%

Schools -18

% FARMS students – 36%

- **LMS used** – Canvas
- **What grades are served** – K-12
- **Teacher Credentials** – All teachers are from Bloomington Public Schools.
- **Instructional Description** - Middle and high school, student spends about 2-4 hours connecting with teacher and classmates online, courses are intentionally designed to balance on screen time with off screen time, and the majority of screen time is active (meaning students are creating, communicating, or collaborating); elementary students spend about 3.5 to 5 hours connecting with teacher and classmates as they need more time with teachers, on average, there are 30 students per New Code academy course, online class sizes mirror class sizes in face-to-face courses by grade level.
- **Any best practices their school specifies** – They engage all students K-12 in a computer science focus approach to education, work on building skills like time management, goal setting and monitoring, communication, attention to detail, and making choices for their personal learning.
- **If IEPs/504s are accepted** – Yes
- **If students are allowed to enroll/disenroll at any time** – Students can attend full-time or choose to attend a select course if they are currently enrolled in Minnesota Public Schools. Disenrolling or enrolling during a semester is not encouraged.

- **Devices/hotspots included** – Provides touchscreen Chromebook/case and helps connect families to free and low-cost internet programs.
- **Meals included** – Yes, all students can pick up a weekly grab and go meal kit at no cost, which includes food for five days.
- **Sports allowed** – Yes, students can participate with their boundary school (determined by address) or the school they attended in the previous school year.
- **Home school system** – Yes, students can access services like extracurriculars, meal pick up, counseling, testing, etc., at either a boundary school or the last physical school they attended.
- **Unique Attributes** – The New Code Academy is free for everyone in Minnesota. The program has a strong focus on computer science, and is embedded in the curriculum - introduces students to concepts like robotics, programming, designing to solve community problems, etc. The overall goal of the school is to establish connections between technology, academics, and community. They also have Wonderful Wednesday which is a school day with no synchronous instruction - allows students to continue learning at their own pace, make choices in learning, catch up on assignments if needed and extend learning in different ways. Teachers use the time to collaborate, develop fully online content and organize hands-on material pick up days.
- **Funding** - Fully funded and supported by district and state funding received for every pupil.
- **Other Online Options** - The Bloomington Public Schools District allows students who are enrolled in their brick-and-mortar schools to take courses offered through New Code Academy part-time.

2. Charlotte-Mecklenburg Virtual Schools (NC)

Students enrolled – 140,406

% Minority students – 75.2%

Schools - 180

% FARMS students – 41%

- **LMS Used** – Uses both Canvas and Edgenuity
- **What grades are served** – K-12
- **Teacher Credentials** – There are a mix of teachers, which are: Charlotte-Mecklenburg School District teachers, North Carolina Virtual Public School teachers who are state certified, and Edgenuity teachers who have a mix of credentials.
- **Instructional Description** - For elementary and middle school students, the first half of the school day is mostly synchronous, and the afternoon session is mostly asynchronous. For the high school virtual program, students can attend their daily synchronous lessons online at home or online at the brick-and-mortar location, which provides students access to technology, counselors, and teachers.

- **Any best practices their school specifies** – The program focuses on individualized instruction with an emphasis on promoting the social and emotional well-being of the students.
- **If IEPs/504s are accepted** – Yes
- **If students are allowed to enroll/disenroll at any time** – Unsure however students who accrue excessive absences (11 or more) or consistently behind pace in coursework even after interventions may “lose continuation of enrollment.”
- **Devices/hotspots included** – Unsure
- **Meals included** – Unsure
- **Sports allowed** – Yes, students can participate through their home school.
- **Home school system** – Yes
- **Unique Attributes** – The high school program curriculum is made up of three content providers to provide instruction to students. Due to staffing limitations, courses are taught by CMVHS teachers, NCVPS teachers, and Edgenuity teachers. The courses staffed by CMVHS and NCVPS teachers use Canvas and the Edgenuity courses use their own system. There is a campus for the virtual program where students can come and attend their online classes and meet with teachers for face-to-face assistance.
- **Funding** – For FY 2021 – 2022, the proposed budget showed funds supporting the Virtual school coming from the state and county with no federal grants. \$700,000 of ARP/ESSER III funds were estimated to go to the virtual school for FY 2023 and 2024.
- **Other Online Options** – Charlotte-Mecklenburg schools offer high school students the opportunity to recovery credits and complete course requirements virtually. There are also opportunities to take online classes through University of North Carolina’s iSchool and the district’s magnet schools.

3. Eastern Shore of Maryland Educational Consortium Blended Virtual Program (MD)

Totaled the number of students enrolled and schools across nine districts and took the average of minority and farms student's percentage for the nine districts in the program for these numbers.

Students enrolled – 62,547

% Minority students – 44%

Schools – 131

% FARMS students – 55.5%

- **LMS used** – Assist is LMS, Apex Learning provides curriculum aligned with Maryland State Standards to ensure the same education students receive in person.
- **What grades are served** 6-12
- **Teacher Credentials** - All teachers are Maryland certified teachers.
- **Instructional time – ratio of synchronous to asynchronous** – For middle school – 8:30 AM– 3:15 PM, six periods daily and generally focus on six courses each day, including an advisory session with a student success coordinator before instruction starts, for SEL or anything else. For high school – 8:00 AM to 2:45 PM, six periods, with advisory session before instruction, students generally focus on four courses daily each semester. At minimum, about 40% of instructional time per course is synchronously or about three hours per day for students with a full course schedule, should expect to spend the length of a normal school day (6-7 hours) completing assignments asynchronously.
- **Any best practices their school specifies** - Designed to be rigorous, virtual tutoring is available on demand from 8 AM – 8 PM, Monday-Friday. There is a student support team, which includes a student success coordinator that meets weekly with students to discuss progress, well-being, etc.
- **If IEPs/504s are accepted** – Yes, are accepted and arranged through home school.
- **If students are allowed to enroll/disenroll at any time** – Cannot enroll at any time, any application submitted after deadline will be added to a wait list, also asks students to commit to at least one year of virtual learning, barring extenuating circumstances.
- **Devices/hotspots included** – Home schools responsible for ensuring each student has appropriate technology and tech support.
- **Meals included** – Yes, only for FARM students.
- **Sports allowed** – Yes, can participate in sports/extracurriculars through home school.
- **Home school system** – Yes, students will still be enrolled in a local school in the county of their residence.
- **Unique Attributes** - Every day, students attend an advisory session with a student success coordinator before instruction starts. This time is used for social-emotional learning, discussion of needed supports, and anything else related to a student's academic journey. These student success coordinators act as advocates for students and

can connect them to needed services. Also, virtual tutoring is available on-demand from 8 AM to 8 PM Monday through Friday for all students.

- **Funding** – Funded by the nine districts and state funding.
- **Other online options** - The Eastern Shore of Maryland Educational Consortium does not offer other online options at this time. However, the nine school districts that participate may offer other online options, such as part-time online courses.

4. Frederick County Blended Virtual Program (MD)

Students enrolled – 45,700

% Minority students – 48%

Schools – 68

% FARMS students – 29%

- **LMS used** – Schoology, uses Google Meets for live lessons.
- **Schedules**- it's on an A/B day, live classes occur daily Monday - Friday, and schedules are aligned to FCPS traditional school schedules. There are seven periods with live instruction for each period.
- **What grades are served** – For the blended virtual program – 6-8 but the FCPS virtual school serves K-12.
- **Teacher Credentials** – FCPS teachers
- **Instructional time** – There is more synchronous than asynchronous instructional time.
- **Any best practices their school believes in, is specified, such as individualized instruction** – also uses parent learning coach model, believes it's important to have a parent there to check progress, help with technical issues, communicate with students, and create a good place for learning. Power Block Wednesdays which are from 1:00 PM to 3:00 PM on Wednesdays, are intended to lessen continuous screen time while still providing support for students, can get extra help, answers to questions, tutoring, etc., interest in the idea of cognitive load theory and implementing that into their program.
- **If IEPs/504s are accepted** – Yes, case by case
- **If students are allowed to enroll/disenroll at any time**- Unsure
- **Devices/hotspots included** - Yes
- **Meals included** - Unsure
- **Sports allowed** – Yes, offered through home school.
- **Home school system** – Yes
- **Funding** – State COVID relief money and operating budget combination.
- **Other online programs** – The Frederick County Virtual School offers multiple programs, such as virtual outside the school which is fully online with mostly independent work but includes synchronous video conferencing sessions once a month. There is virtual inside the school which allows students to use a block of the school day to work on the virtual course inside a digital learning lab, with support from a trained mentor. There is a

combination of synchronous video conferencing sessions and face to face as well. There are also virtual programs focusing on credit recovery for graduation.

5. Fulton County Academy of Virtual Excellence (GA)

Students enrolled – 94,400

% Minority students – 73%

Schools – 108

% FARMS students – 41%

- **LMS used** - Canvas
- **What grades are served** – 3-11
- **Teacher Credentials** – Taught by Fulton County School District teachers.
- **Instructional time** – For elementary students, daily live instruction is provided and required, middle school and high school will still have the same live lesson opportunities, but they will be more flexible, integral part of the school experience are digital lessons, which include videos and interactive tools for practice questions. It also includes assignments that demonstrate mastery of standards, digital curriculum is flexible and allows students to speed up or slow down.
- **Any best practices their school believes in, is specified, such as individualized instruction** – Learning coach (family member), flexible pacing, competency-based, discussion-based assessments (after lesson is completed in a module, students will have short phone conversation with teacher and answer questions about info they learned).
- **If IEPs/504s are accepted** – Yes, but accommodations for students with IEPs are limited to those appropriate to an online environment.
- **If students are allowed to enroll/disenroll at any time** – Those who enroll make a year-long commitment.
- **Devices/hotspots included** – Unsure
- **Meals included** – Yes, provides free weekly meal kits, picked up at the front office of select schools, and kits must be preordered online each week.
- **Sports allowed** – Cannot participate in extracurricular activities at their local school but students have opportunity to engage in extracurricular activities through virtual school.
- **Home school system** – No, they enroll specifically in online school.
- **Unique Attributes** – No home school, outlined agreements for students and parents, have a dedicated family member to serve as a learning coach for all students – do daily check ins, verify work completion, grades, help child respond to teacher feedback, and for elementary and middle school students, learning coaches are required to be with students during school hours.
- **Funding** – Included in the adopted FY23 budget, no indication of grant funding.
- **Other online programs offered through district** – Fulton Virtual is a part-time supplemental program in which students take one to three courses online, it is self-

directed and does not include consistent live instruction, FCS also allows students to take online classes while attending traditional school, also helps students to take classes through the Georgia Virtual School, which is a statewide online schooling program through the Georgia Department of Education's Office of Technology Services.

6. Los Angeles Unified Virtual Academy (CA)

Students enrolled – 574,570

% Minority students – 89.5%

Schools – 1,424

% FARMS students – 80%

- **LMS used** - Schoology
- **What grades are served** – K-12 with division of elementary, middle, and high school.
- **Teacher Credentials** – All teachers are LAUSD teachers
- **Instructional Description** – For all grades, morning hours are devoted to instructional support time with all classes students are enrolled in. For middle and high school students, there's time to work on real-world projects and activities with classmates. Afternoon hours for all grades are for independent work, intervention, tutoring, enrichment, club opportunities, and check-in with supervising teacher weekly. There is up to three hours of synchronous learning a day every morning and 20-30 hours per week of independent asynchronous work. The program relies on the guardian being there to monitor and assist with progress. Individual teachers will provide instructional support for all subject matters. At the middle and high school level, there will be personalized learning teams (PLTs) of teachers that form a system of support and work closely with small groups of students in each content area.
- **Any best practices their school specifies** – Individualized learning is encouraged and supported by the guided academic pathways offered. Each pathway offers students substantive exposure to career opportunities through theme-based clubs, extracurricular activities, virtual field trips, and career speakers/activities, all with culminating projects appropriate to age levels.
- **If IEPs/504s are accepted** – Yes, IEPs are accepted on a case-by-case basis. The IEP team meets to discuss and review placement in virtual academy if it is a good fit.
- **If students are allowed to enroll/disenroll at any time** – Yes but it is not encouraged. Students can leave to return to in person if they want but if they want to come back, their spot is not guaranteed. Further, enrollment into one of the six virtual academy themes offered are a one-year commitment and students cannot switch to another theme until the next enrollment period.
- **Devices/hotspots included** – Yes to both, provided through the home school.
- **Meals included** - Yes
- **Sports allowed** - Unclear
- **Home school system** - Yes

- **Unique attributes** – There are six virtual academy themes all students can choose from – STEAM, STEAM leadership and public service, STEAM business and entrepreneurship, international studies and world languages, arts and entertainment, and computer science. Also, the ratio of synchronous to asynchronous differs greatly from other programs examined, as well as only having one teacher for all subjects at lower grades and the PLTs at the middle and high school level.
- **Funding** - The district plans to cover the cost of nonteaching staff and resources for the virtual school with federal Covid-19 relief funds for the first two years, up to \$16.2 million per year. Following years will rely on state funding.
- **Other online options** - The Los Angeles Unified City of Angels School has an online independent study program where students receive daily live instruction for part of the day and complete weekly independent work asynchronously. The district also offers online credit-bearing courses through Apex Learning and Edgenuity students can take on their own time.

7. Low Country Virtual Program (SC)

Totaled the number of students enrolled and schools across eight districts and took the average of minority and farms student's percentage for eight districts in the program for these numbers

Students enrolled – 140,633

% Minority students – 32.3%

Schools - 205

% FARMS students – 27.38%

- **LMS used** – Uses Canvas and have leased curriculum from FVS and worked with them to align the curriculum to state standards. Chose this method so each teacher is using the same curriculum across the entire program, for continuity for students.
- **What grades are served** – K-8
- **Teacher Credentials** – All teachers are from the eight districts, focusing on hiring teachers that are skilled in digital pedagogy and have experience in online teaching.
- **Instructional Description** - Kindergarten has the most varied schedule– 8:30 – 10:30 AM, whole group instruction, always start with homeroom morning meeting/SEL, then subjects. Afternoon session is asynchronous – goes from 12:30 – 2:30 PM – independent work, intervention as needed. Flex Fridays start with a brief homeroom session then asynchronous work time, such as make up work, club activities, intervention, staff development time, etc. For grades 1-8, times vary but a typical school day goes from 8:00 AM to 3:30 PM, starts off with homeroom/morning meeting, then generally four live classes Monday – Thursday scheduled for both morning and afternoon sessions, times set aside between live sessions to have independent work, small group work, or interventions, followed by Flex Friday.

- **Any best practices their school believes in, is specified, such as individualized instruction** – Uses the National Standards for Quality for Online Learning for the foundation of its program, the pineapple chart method in professional development, emphasizes parent involvement important to student success.
- **If IEPs/504s are accepted** – Yes, on case-by-case basis.
- **If students are allowed to enroll/disenroll at any time** – Students are asked to commit for the year, however there is an option to withdraw at the end of the semester, contingent on home district's policies.
- **Devices/hotspots included** – Device included but no hotspots, recommends every student has high speed internet.
- **Meals included** - Unsure
- **Sports allowed** – Yes, through home school, no transportation provided and is responsibility of parent
- **Home school system** – Yes
- **Unique Attributes** – Has eight school districts in the program, shared-services collaborative effort and leaders from each district meet together to plan the program, three districts offer only grades 4-8 and the remaining five allow students K-8 to partake in the program, their four day a week schedule with Flex Friday, also having homeroom and office hours every day, uses the National Standards for Quality for Online Learning as foundational components for its virtual program, office hours provided before morning session and during afternoon session every day.
- **Funding** - Funded by the eight districts and state funding
- **Other online options** – Online options offered by eight districts individually, no part-time enrollment for Low Country Virtual.

8. Madison Promise Online Program (WI)

Students enrolled – 27,000

% Minority students – 57%

Schools - 52

% FARMS students – 36%

- **LMS used** – Infinite Campus
- **What grades are served** – 4-10, with possible expansion to 11 and 12 with resources.
- **Teacher Credentials** – Teachers employed by the district.
- **Instructional Description** – Varies on grade level, generally each class meets twice a week, with one hour block for each, teaching blocks are no more than 30 min, which are direct instruction delivered by teachers, and 30 min of independent work/homework for the last half of the class, 10 hours of office hours scheduled a week.
- **Any best practices their school specifies** – Yes, literacy learning is engrained in the program. Therefore only grades 4-10 are available, with room for growth for 11 and 12.

K-3 does not have the literacy skills necessary to keep up with online learning and instead they attend traditional school to acquire these skills before going fully online. Also, parent involvement is specified as important to success.

- **If IEPs/504s are accepted** – Yes, are reviewed upon acceptance into program to determine what supports/accommodations are needed.
- **If students are allowed to enroll/disenroll at any time** – “Students who elect to apply for Madison Promise are electing to attend online for the entire school year”.
- **Devices/hotspots included** – No information available.
- **Meals included** – No but in process of determining how to best serve students who are enrolled online but want to eat lunch through their food services.
- **Sports allowed** - Yes
- **Home school system** – Yes
- **Unique Attributes** - The program is built on five key principles which are: strong student engagement, teachers who excel at building strong relationships, quality training and professional development for teachers, flexibility, and student’s school of choice. The Madison Promise Online Program believes in literacy learning, which is why the earliest grade it serves is 4th grade. Program leaders do not believe K-3 students have the literacy skills, digital and general, that is necessary to meaningfully engage and keep up with online learning. Further, students must submit letters of recommendation as part of the application process.
- **Funding** – Is both grant and district funded, using COVID relief funds and district funds, determining how to develop more stable funding structure for school
- **Other online options** - The Madison Metropolitan School District also has the Madison Virtual Campus which offers a la cart online courses through the program. Usually, students use this program to fit a specific course in their schedule or for credit recovery. The district also offers Edgenuity online programs for credit recovery, innovative and alternative education programs, and for individualized education programs.

9. Nevada Learning Academy at CCSD (NV)

Students – 305,000

% Minority Students- 76%

Schools - 360

% FARMS- 65%

- **LMS Used** – Canvas, and uses their curriculum with alignment to Nevada Academic Content Standards
- **What grades are served** – K-12, elementary just added for 2022-2023.
- **Teacher Credentials** – Teachers are state certified and trained specifically for online teaching.

- **Instructional Description** – Courses are teacher led, students are required to attend scheduled live sessions weekly to enhance their learning and receive support for content area instruction, study skills, successful online learning strategies, project-based learning activities, designed to follow traditional semester calendar, teachers are available every day for two hours for any assistance, NVLA allows students to work from home or on campus online, expect to spend 1-2 hours per day per class on completing coursework.
- **Any best practices schools believe in/specify** – Important to have at-home learning coach, teachers, and counselors support students in a variety of ways including phone, email, live video/chat, text, and onsite at the NVLA campus.
- **If IEPs/504s are accepted** - Yes
- **If students are allowed to enroll/disenroll at any time** – Case by case basis
- **Devices/hotspots included** – Loans equipment but also tells parents to have a backup plan for technology as students will not be excused from attendance for any technology problems.
- **Meals included** - Unsure
- **Sports allowed** - Yes
- **Home school system** – No, NVLA is its own school and has a dedicated campus, however students can access extracurriculars and sports at the school for which they are zoned.
- **Unique Attributes** – Began in early 2000s, though the district began offering distance education opportunities to its students in 1991, an individualized academic education plan is developed for all full-time students, tailored to meet their unique needs, have different career pathways such as health science, IT, business, has a physical campus, with a student cyber lounge which is a dedicated student friendly workplace, a computer lab for testing and instruction, a science lab, and tutoring rooms, they have their own student council that plans events like dances and fundraising drives, they have a self-assessment survey for determining if online learning is right for the student.
- **Funding** – Fully supported by operating budget
- **Other online programs offered through district** – Can take part-time courses with NVLA as a high school student

10.Tacoma Online (WA)

Students – 28,649

% Minority Students- 65%

Schools – 67

% FARMS- 62%

- **LMS Used-** Edgenuity
- **What grades are served-** K-12
- **Teacher Credentials** – Tacoma district teachers

- **Instructional Description** - Schedules can be personalized, students can do schoolwork independently any time from any place with schedules that are collaboratively set with support of their online teacher, learning occurs through live and recorded video lessons delivered completely online, students will have an assigned schedule and must meet prescribed timelines for progress.
- **Any best practices schools believe in/specify** – Emphasis on personalized learning experiences that align to each student’s growth, requires learning coach for each student, important for partnership between teacher, student, and family, live learning and class engagement opportunities, that focus on anyone, anytime, anywhere learning with a support team including counselors, teachers, and learning coach (parent or guardian at home), have a homeroom where they get to know teachers and classmates through meetings and SEL curriculum, having advisory teachers essential at middle and high school level, are the main point of contact for families and provide info, can act as liaison, have advisory classes on a daily basis (not required to attend but cited as extremely important for students), official name for advisory is PACE - stands for personalized accelerated connected empowered which are the pillars of the program, pairs every student with an educator that serves as their PACE coach, meets weekly at minimum to monitor progress towards their individual learning plan.
- **If IEPs/504s are accepted** - Yes
- **If students are allowed to enroll/disenroll at any time** – Must complete an entire semester of learning, and then return to in-person learning.
- **Devices/hotspots included** – Yes through home school.
- **Meals included** – Yes, can pick up daily meals from any TPS middle school.
- **Sports allowed**- Yes
- **Home school system** - Yes
- **Unique Attributes** – Provides online counseling tied directly to Tacoma Online.
- **Funding** – All funding for Tacoma Online included in the general fund 2022-2023 draft budget.
- **Other online programs** – Students can enroll part-time at Tacoma Online and take courses while still attending their physical school.

